

Attachment H

Proposal # 2001-L-206 (Office Use Only)

**PSP Cover Sheet** (Attach to the front of each proposal)

Proposal Title: RD 2035 Fish Screen Design and Environmental Review

Applicant Name: Reclamation District 2035

Contact Name: Jim Staker

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Amount of funding requested \$1,820,000

Some entities charge different costs dependent on the source of the funds. If it is different for state or federal funds list below.

State cost n/a

Federal cost n/a

Cost share partners?

X Yes      No

Identify partners and amount contributed by each RD 2035 contributing \$30,000 of in-kind services.

Indicate the Topic for which you are applying (check only one box).

- |  |  |
|--|--|
| <input type="checkbox"/> Natural Flow Regimes                | <input type="checkbox"/> Beyond the Riparian Corridor                |
| <input type="checkbox"/> Nonnative Invasive Species          | <input type="checkbox"/> Local Watershed Stewardship                 |
| <input type="checkbox"/> Channel Dynamics/Sediment Transport | <input type="checkbox"/> Environmental Education                     |
| <input type="checkbox"/> Flood Management                    | <input type="checkbox"/> Special Status Species Surveys and Studies  |
| <input type="checkbox"/> Shallow Water Tidal/ Marsh Habitat  | <input type="checkbox"/> Fishery Monitoring, Assessment and Research |
| <input type="checkbox"/> Contaminants                        | <input checked="" type="checkbox"/> Fish Screens                     |

What county or counties is the project located in? Yolo County

What CALFED ecozone is the project located in? See attached list and indicate number. Be as specific as possible 3.5 Sacramento River - Verona to Sacramento

Indicate the type of applicant (check only one box):

- |   |   |
|---|---|
| <input type="checkbox"/> State agency                         | <input type="checkbox"/> Federal agency |
| <input type="checkbox"/> Public-non-profit joint venture      | <input type="checkbox"/> Non-profit     |
| <input checked="" type="checkbox"/> Local government/district | <input type="checkbox"/> Tribes         |
| <input type="checkbox"/> University                           | <input type="checkbox"/> Private party  |
| <input type="checkbox"/> Other: _____                         |   |

Indicate the primary species which the proposal addresses (check all that apply):

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> San Joaquin and East-side Delta tributaries fall-run chinook salmon | <input checked="" type="checkbox"/> Winter-run chinook salmon | <input checked="" type="checkbox"/> Spring-run chinook salmon |
| <input checked="" type="checkbox"/> Late-fall run chinook salmon                             | <input checked="" type="checkbox"/> Delta smelt               | <input checked="" type="checkbox"/> Fall-run chinook salmon   |
| <input type="checkbox"/> Splittail   | <input type="checkbox"/> Longfin smelt                        | <input type="checkbox"/> Steelhead trout                      |
| <input type="checkbox"/> Green sturgeon  | <input type="checkbox"/> Striped bass                         | <input type="checkbox"/> All chinook species                  |
| <input type="checkbox"/> White Sturgeon  | <input checked="" type="checkbox"/> All anadromous salmonids  | <input type="checkbox"/> American shad                        |
| <input type="checkbox"/> Waterfowl and Shorebirds  |   |   |
| <input type="checkbox"/> Migratory birds   |   |   |
| <input type="checkbox"/> Other listed T/E species: _____                                     |   |   |

Indicate the type of project (check only one box):

- |   |   |
|---|---|
| <input type="checkbox"/> Research/Monitoring                  | <input type="checkbox"/> Watershed Planning |
| <input type="checkbox"/> Pilot/Demo Project                   | <input type="checkbox"/> Education          |
| <input checked="" type="checkbox"/> Full-scale Implementation |   |

Is this a next-phase of an ongoing project? Yes X No \_\_\_\_\_  
Have you received funding from CALFED before? Yes X No \_\_\_\_\_

If yes, list project title and CALFED number: \_\_\_\_\_

Have you received funding from CVPIA before? Yes \_\_\_\_\_ No X - Received a grant offer, but grant was declined, as described in this proposal.

If yes, list CVPIA program providing funding, project title and CVPIA number (if applicable): \_\_\_\_\_

By signing below, the applicant declares the following:

- The truthfulness of all representations in their proposal;
- The individual signing the form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or organization); and
- The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section 2.4) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant to the extent as provided in the Section.

James Staker

Printed name of applicant



Signature of applicant

# EXECUTIVE SUMMARY

Project Title: RD 2035 Sacramento River Pump Intake Positive Barrier Fish Screen - Design and Environmental Review  
Amount Requested: \$1,820,000

Primary Contact:	James Staker, General Manager Reclamation District 2035 45332 County Road 25 Woodland CA 95776	Phone: 530-662-9080 Fax: 530-662-0562 E-mail: jstaker@yolo.com
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## Participants and Collaborators:

West Yost & Associates, Inc.  
1260 Lake Boulevard, Suite 240  
Davis, CA 95616  
Attn: Jim Yost

Montgomery Watson America, Inc.  
777 Campus Commons Road, Suite 250  
Sacramento, CA 95825  
Attn: Neil Schild

**Project Summary:** The Reclamation District (RD) 2035 Sacramento River Pump Intake Positive Barrier Fish Screen - Design and Environmental Review project includes the design and environmental review for a full scale fish screen. This project directly supports the ERP Strategic Goal 1 – At Risk Species and Goal 3 Harvestable Species. A grant of \$1,820,000 is requested for this project. The grant will be combined with \$30,000 of in-kind services from the District for a total budget of \$1,850,000. This project is a next-phase project for CALFED Project 98-NO1 (see Appendix A for current project status).

RD 2035 pumps water from the Sacramento River through a 400 cubic feet per second pump station for agricultural irrigation. Pumping is provided by four 36-inch, 300 hp vertical impeller pumps located immediately upstream from the Vietnam Veterans Bridge over the Sacramento River on Interstate Highway 5 (I-5), as shown on Figure 1. Currently the pump intakes are unscreened, and have likely entrained juvenile Chinook salmon, steelhead trout and other fish. The objective of this project is to prevent the entrainment of fish in the pumped diversion.

This proposal includes preparation of design drawings to 30, 90, and 100 percent design; preparation of technical specifications; environmental analysis as required by NEPA/CEQA; acquisition of necessary construction permits and approvals.

In the adaptive management process as applied to the reduction of entrainment of fish, this project is a full scale implementation of an effective restoration action (National Marine Fisheries Service, Southwest Region "Fish Screening Criteria for Anadromous Salmonids, January 1997. State of California Resources, Department of Fish and Game "Fish Screening Criteria", April 1997). The goal for this project is to preclude the entrainment of fish in RD 2035's diversion from the Sacramento River. The conceptual model is that the fish screens with a 0.0689-inch opening will preclude the entrainment of fish, and that the water approach velocity of 0.33 feet per second will preclude impingement of fish on the screens. Monitoring for this project will include periodic netting of the pump station discharge to determine if the screens are effective and underwater visual inspection of the screens to determine if fish are impinged on the screens. If the screens are not precluding the entrainment and impingement of fish, the pump station/screen facilities and operation will be reevaluated/modified to further try to protect the fish.

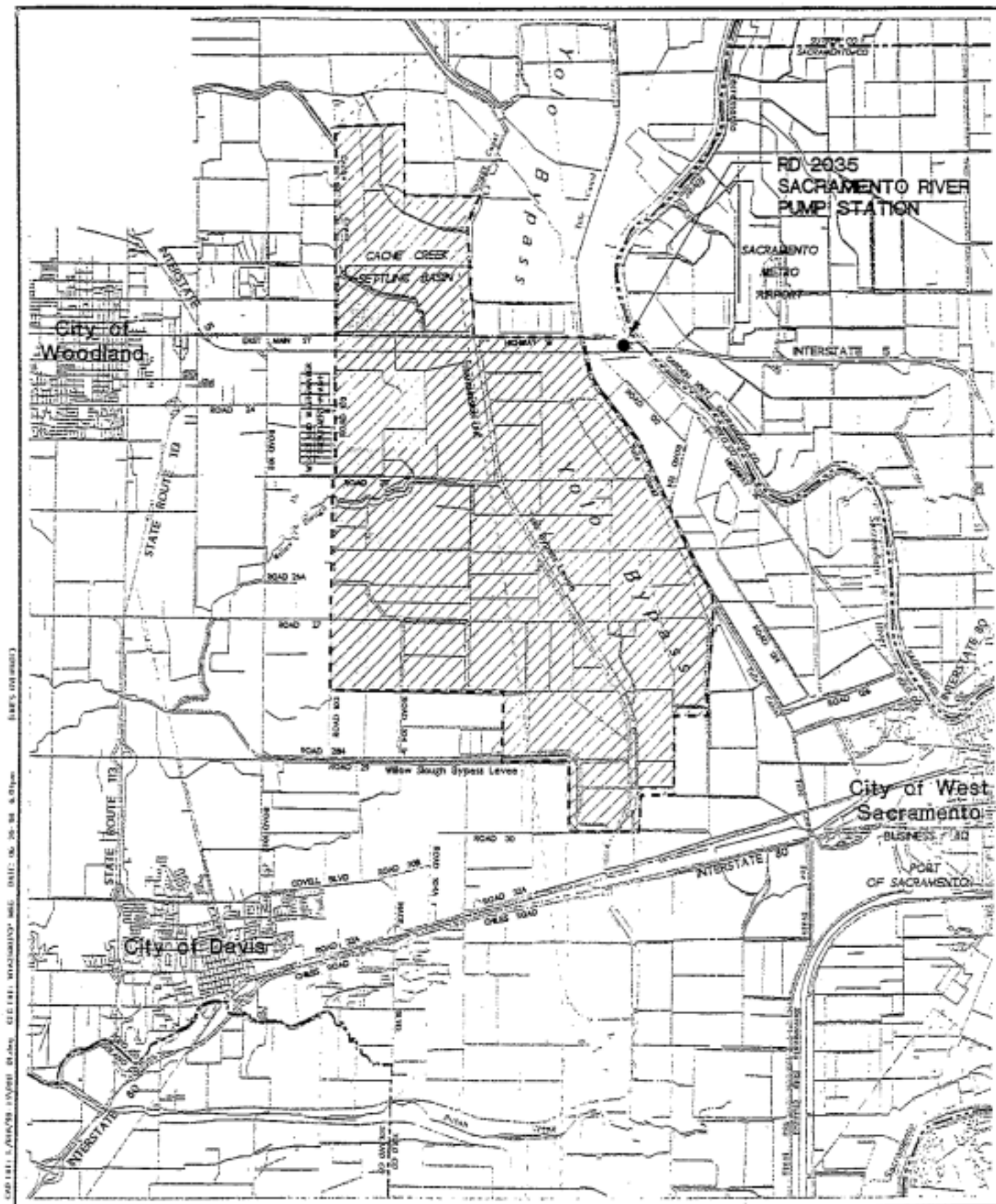


Figure 1

# PROJECT DESCRIPTION

## BACKGROUND

Reclamation District (RD) 2035 was formed in 1919 to provide flood protection, drainage, and irrigation water to lands in Eastern Yolo County. The water supply consists of water lifted from the Sacramento River and Cache Creek and groundwater. This water supply is used to irrigate about 15,000 acres of crops including rice, corn, alfalfa, wheat, tomatoes, safflower, and other annual crops.

The Sacramento River diversion is provided by four 36-inch, 300 hp vertical impeller pumps located in a concrete pump house immediately upstream from the Vietnam Veterans Bridge over the Sacramento River on I-5. Each pump has a maximum capacity of 110 cfs, for a total capacity of over 400 cfs. The diversion is allowed under appropriative water rights with a priority starting in 1919, and a Bureau of Reclamation, Central Valley Project settlement contract. The normal season for irrigation water diversion is from April 1 through October 31, but has occasionally extended through December.

Water from the Sacramento River diversion is also used in the irrigation off-season for groundwater recharge, which provides incidental waterfowl benefit. At times this water can be obtained from the Yolo Bypass, but is often diverted directly from the Sacramento River. This water supplies food production and winter habitat for waterfowl.

In 1998 a proposal was submitted and approved by CALFED for a feasibility/predesign study to identify a preferred fish screen facility for the pump intakes. This feasibility/predesign study is currently underway, but not yet completed. In this feasibility study, seven fish screen alternatives were evaluated at a screening level, including:

1. Screen and access ramp around existing pump structure
2. Tee screens from existing pumping structure
3. Flat screens from existing pumping structure
4. Tee screens, gravity drain through levee to pump structure'
5. Flat screens, gravity drain through levee to pump structure
6. Flat screens around new pump structure in river
7. Flat vertical screens with underwater concrete sump in river

Options 1, 2, and 3 were eliminated based on conflicts between RD 2035's pumping requirements and construction timing requirements, and structural integrity of existing pumping structure. Options 4, 5, 6, and 7 were refined and modified into four options for a detailed evaluation, including:

- A. In river pump station with flat plate screens on both sides of structure and box girder conduit bridge, water lifted over the levee (minimizes levee excavation)
- B. In river pump station with flat plate screens on one side of structure and slab access bridge, with water pumped through the levee
- C. Land-side pump station with cylindrical tee screen intake and slab access bridge, with water gravity draining through the levee

D. Land-side pump station with cylindrical tee screen intake and graded crane access ramp, with water gravity draining through the levee

Based on the detailed evaluation, it appears that Alternative A will be more expensive than the other alternatives, while Alternative D is likely not pennittable due to the negative ecological impacts. A preferred alternative is currently being developed which combines the best aspects from Alternatives B and C. Schematic layouts of Alternatives B and C and preliminary construction cost estimates are presented in Appendix A. Final identification of a preferred alternative is anticipated by the end of May 2000.

This next-phase proposal is for \$1,820,000 to cover the design, specifications and environmental evaluation of the preferred fish screen option. In the year 2001, a proposal will be submitted for funding the construction of the fish screen/pump station. At that time a design level estimate of construction costs will be known, but it is anticipated that the construction request will be in the range of \$11 to \$13 million.

## STATEMENT OF PROBLEM

### Problem

The problem addressed by this project is the entrainment of juvenile migrating at-risk native fish species by an existing agricultural water diversion. Small juvenile salmon are relatively weak swimmers and can be entrained by high flow intake pumps. The target species and life stage of primary concern for this project is the Winter Run Chinook Salmon juvenile which was listed as an endangered species in 1994

RD 2035 currently operates a 400 cfs intake pump station at approximately River Mile 70.8 on the Sacramento River. The unscreened intake has been in operation since 1920. The intake pumps generally operate during the months of April through October and impact all runs of Chinook Salmon including the Winter Run juveniles which migrate downstream during the months of July through March.

### Conceptual Model

It is widely accepted that screening a pump intake will prevent fish from being entrained by the pump and killed. Fish screen design standards have been developed by the National Marine Fisheries Service (NMFS 1997) and the California Department of Fish and Game (CDFG 1997). One key component of these standards is that the maximum velocity of water approaching the screens in a normal direction shall be less than 0.33 ft/sec. This low velocity assures that fish will not be pinned against the outside of the screens during pumping.

### Hypothesis Being Tested

This project will include abandonment of the existing unscreened intake and construction of a new intake pump station, with fish screens designed per the current standards noted above. The new screens will allow migrating Chinook Salmon, as well as other fish species, to pass by the intake pumps without risk of entrainment. The project therefore protects an at-risk native species and meets Goal 1 in the ERP strategic goals as noted on Page 17 of the PSP. In addition, since salmon is a harvestable species, the project meets Goal 2 in the ERP strategic goals as noted on Page 18 of the PSP.

## Adaptive Management

The adaptive management design will be incorporated into the project through a staged approach. The first stage will be a flexible design which will have built-in design elements that can be easily modified after construction to fine tune facility performance. These design elements will include such items as adjustable louvers to equalize approach velocities across the fish screen face and an adjustable automated screen cleaning system.

The second stage of the adaptive approach will be the construction quality control phase. In this stage the completed facility will be inspected by an agency approved inspector to verify that the facility was constructed per plans and specifications. The inspector may check for items such as gaps around the fish screens, proper performance of screen cleaning equipment, and integrity of screen material.

The third stage of the adaptive approach will be hydraulic testing of the facility. This stage will involve measurement of approach velocities across the face of the fish screens. The operational settings of the equipment will be adjusted, retested, and readjusted as needed to verify that the proper hydraulic conditions are obtained.

The fourth stage of the adaptive approach will be biological testing. During this stage testing will be performed to verify that the fish screens are indeed preventing entrainment of fish. Biological evaluation methods will be developed in concert with governing agencies during the design phase of the project. This will allow evaluation facilities to be built into the design. Testing in this phase could include inspection by divers to verify that no fish are being impinged on the screen or entrained within the intake and could include periodic netting at the intake's outlet to verify that no fish have been entrained. Based on the results of initial testing, the operational settings of the intake's equipment would be modified as necessary and reevaluated.

## Educational Objectives

This project does not have education as a primary focus and so education gains for the project will be limited to verification of the effectiveness of current fish screening criteria.

## PROPOSED SCOPE OF WORK

The scope of work is described in the following work tasks. The deliverables for each task are identified below.

**Task 1. Detailed Surveying**—Perform detailed above ground and underwater surveying of the site as needed for the selected alternative. For the feasibility study, existing U.S. Army Corp of Engineers topographic mapping above and below the river water level was used, supplemented by limited field surveys to verify elevations of critical structures. For this design effort, additional detailed underwater surveying will be undertaken to verify the river bottom and levee bank topography.

**Task 2. Detailed Geotechnical Evaluation**—Obtain above ground and underwater geotechnical data required to design the structure, including electronic cone penetration test, six borings, and laboratory testing of soil samples.

**Task 3. 30 Percent Design**—Complete the design of the facilities to a 30 percent level. The design drawings will include general civil, structural, mechanical, and electrical plans. The 30 percent plans will receive an in-house Quality Assurance/Quality Control (QNQC) review, which will include a value engineering evaluation. Presentation to and review by the CALFED and the AFRP Technical Committee will be sought.

**Task 4. 90 Percent Design**—Continue the design of the positive barrier fish screen to a 90 percent level, including addressing comments received on the 30 percent drawings and implementing mitigation measures as necessary based on the environmental review. A QA/QC review will be provided. Presentation to and review by CALFED and the AFRP Technical Committee will be sought.

**Task 5. Technical Specifications**—Prepare technical specifications for construction. The request for bids will not actually be prepared or advertised until construction funding is secured. A QA/QC review will be provided. Review by CALFED, QA/QC, and the AFRP Technical Committee will be sought at this point.

**Task 6. Final Design and Specifications**—100 percent design plans and final technical specifications will be prepared incorporating comments and questions from the reviewers. Final plans and specifications will be provided to CALFED and AFRP Technical Committee, and presentation to and review by the AFRP Technical Committee will be sought.

**Task 7. Environmental Review**—The environmental work will consist of applying for and obtaining the environmental clearances required for implementation of the fish screen project. Environmental documentation will be prepared. If the project is to receive federal funding, an Environmental Assessment (EA) will be prepared for the federal lead. If the project is to receive state funding, an Initial Study (IS) will be prepared for the state lead. If necessary both an EA and an IS will be prepared. Presentation to and review by the AFRP Technical Committee will be sought.

**Task 8. Permitting**—In addition to the environmental documentation, the permits and authorizations identified in Table 1 below will be secured for the project.

**Task 9. Project Management**—The project will be actively managed to ensure the budget and schedule requirements are achieved. RD 2035 will take the lead on this task by ensuring the work tasks, deliverables, and progress reports are completed on schedule and on budget. Contracting and subcontracting of the above work tasks will also be completed under this task.

**Table 1. Required Permits and Authorizations**

Agency/Permit	Applicability	Requirements for Application
U.S. Army Corps of Engineers Section 404 Nationwide and Section 10 Individual Permits	Required when working in natural streams and rivers	<ul style="list-style-type: none"> <li>Site Plan and Section Drawings</li> <li>Location Map</li> <li>CVRWQCB Sect. 401 Water Quality Certification (may be done concurrently)</li> <li>COE Application 4345</li> <li>Environmental Documentation</li> </ul>
Central Valley Regional Water Quality Control Board Section 401 Water Quality Certification	Required when working in natural stream and rivers if the construction area is less than 5 acres	<ul style="list-style-type: none"> <li>CEQA Certification</li> <li>Application Form and Fee</li> <li>Section 1600 Stream Alteration Agreement or note contact with CDFG</li> <li>Copy of COE Application 4345</li> </ul>

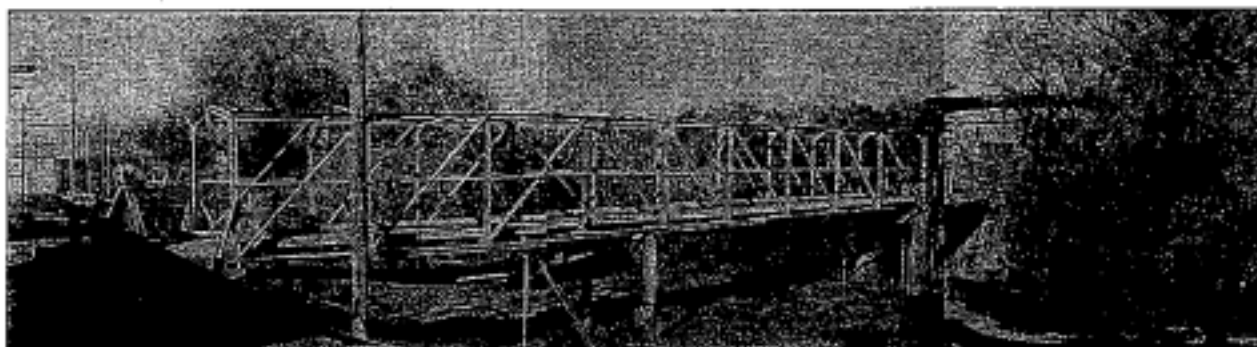


Agency/Permit	Applicability	Requirements for Application
Central Valley Regional Water Quality Control Board NPDES Discharge Permit	Required if construction area is greater than 5 acres	<ul style="list-style-type: none"> <li>■ NPDES Application and Fee</li> </ul>
California Department of Fish and Game Section 1600 Stream Alteration Permit	Required when natural streambed is to be altered by construction	<ul style="list-style-type: none"> <li>■ Environmental Documentation</li> <li>■ Application Form and Fee</li> <li>■ Project Location Map</li> <li>■ Site Plan</li> </ul>
California State Reclamation Board Encroachment Permit	Required when construction alters levees	<ul style="list-style-type: none"> <li>■ Permit Application Form</li> <li>■ Completed Questionnaire</li> <li>■ 4 copies of the Site Plan, Section Drawings, and Location Map</li> <li>■ 2 Photos of the Project Site</li> <li>■ Environmental Documentation</li> </ul>
State Historic Preservation Officer and National Historic Preservation Section 106 Coordination	Required for construction	<ul style="list-style-type: none"> <li>■ Archaeological Inventory Survey and Report</li> </ul>
California Endangered Species Act (CESA) Consultation	Required for construction	<ul style="list-style-type: none"> <li>■ State lead agency designated</li> <li>■ Threatened and endangered biological review</li> </ul>
Endangered Species Act (ESA) Compliance	Required for construction	<ul style="list-style-type: none"> <li>■ Federal lead agency designated</li> <li>■ Site Visit</li> <li>■ Threatened and endangered biological review</li> </ul>

## Project Location

The Sacramento River water diversion for RD 2035 is located in Yolo County just north of the 1-5 bridge over the Sacramento River at 38° 40' 30" north latitude and 121° 37' 40" west longitude (Section 27, Township T10N, Range R3E on USGS 7.5 minute Quadrangle Gray's Bend, California), as shown on Figure 1. The RD 2035 service area is located along the right (west) bank of the Sacramento River southeast of Woodland in Yolo County, and includes land in and west of the Yolo Bypass (See Figure 1). Schematic layouts of two options for the new pump station and fish screens at this site are shown in Appendix A.

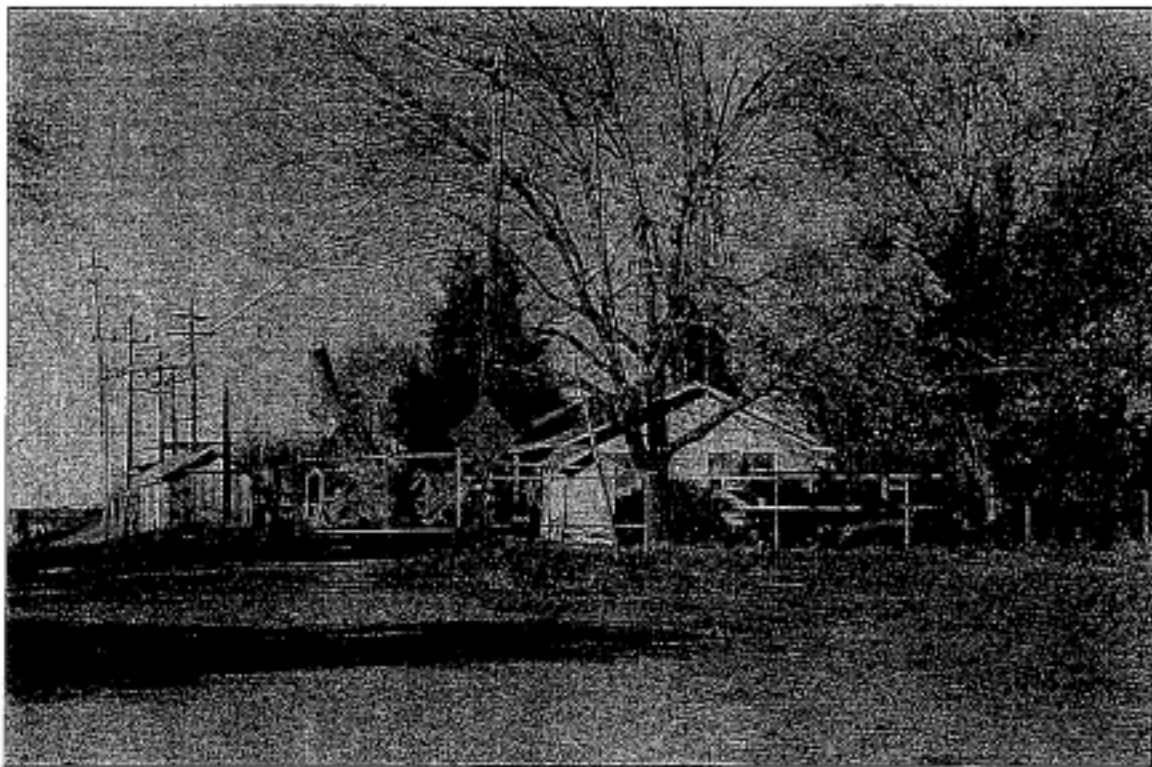
A photograph of the existing pump station is shown in Figure 2. The new pump station intake will be located along the right bank of the Sacramento River (shown in Figure 3) just north of the 1-5 Bridge. The new pump station will discharge through the existing levee in the foreground of Figure 4. The house in Figure 4 is the current pump station caretaker's residence.



**Figure 2. Existing RD 2035 Pump Station**



**Figure 3. Right Bank of the Sacramento River at the Location of the Proposed New Pump Station and Fish Screens.**



**Figure 4. Site of Proposed New Pump Station Crossing of the Levee (in Foreground)**

## Approach

The design of *this* facility will be approached using industry standard design techniques, including independent QA/QC review. The project approach/design criteria incorporate fish screen design standards which have been developed by the National Marine Fisheries Service (NMFS 1997) and the California Department of Fish and Game (CDFG 1997) and are as follows:

### 1. Fisheries:

- a. Project design will be based on protection of juvenile anadromous fish present in the Sacramento River at the point of diversion.
- b. The target species and life stage of concern is winter run Chinook salmon fry.
- c. Sacramento splittail are present in the area of the RD 2035 intake and *this* fish is a candidate for listing as threatened or endangered. No screening criteria for splittail currently exist. Preliminary swimming data collected recently by researchers at the University of California at Davis indicate that splittail swimming speeds are comparable to salmonid fry. Therefore, screens designed for salmonid fry criteria should protect splittail.
- d. The screens will be designed to meet criteria from the 10 to 90 percentile exceedence flows in the river.
- e. Facilities will be designed to be protected from the 100-year flood elevation ( 39.0 feet).

### 2. Project Flows:

- a. Current RD 2035 peak water demands are approximately 400 cfs.
- b. Project will be designed to enable the RD 2035 to pump at a peak rate of 400 cfs during the months of April through October, which will replace their existing unscreened pump station capacity.

### 3. Fish Screen Types:

- a. Only positive fish barriers have been considered.
- b. Behavioral barriers such as louvers, acoustics, light, air and electrical barriers have not been considered.
- c. Stainless steel wedge-wire type screen material will be used for flat or cylindrical fish screens. Automatic screen cleaning will be provided.

### 4. Fish Screen Sizing Criteria:

- a. River water approach velocity, normal to the screen face ( $V_a$ ) shall be 0.33 fps maximum. Velocity is based on the gross screen area less the area of major structural supports.
- b. River sweeping velocities ( $V_s$ ) parallel to the screen face must be at least twice the approach velocity.
- c. Screen opening slot will be 1.75 mm wide.
- d. Screen panels will have at least 27% open area.
- e. Submerged screens will be located a minimum of three feet below mean low water level.

## Monitoring and Assessment Plans

As noted previously, the fourth stage of the project's adaptive management approach will be biological testing. Biological evaluation methods will be developed in concert with governing

agencies during the design phase of the project. This will allow evaluation facilities to be built into the design. Testing in this phase could include inspection by divers to verify that no fish are being impinged on the screen or entrained within the intake and could include periodic netting at the pump station's outlet to verify that no fish have been entrained. Based on the results of initial testing, the operational settings of the intake's equipment would be modified as necessary and reevaluated.

### Data Handling and Storage

During the design process, all data, including paper and electronic copies of design drawings and specifications, will be stored at the consulting engineers offices. Electronic files will be backed up daily, with the back up tapes stored both on site and off site.

### Work Schedule and Products

The proposed work schedule and work products *are* presented in Table 2. The schedule for completion of each work task is provided in terms of months after the proposal is funded and a contract signed. All tasks are essential, and none should be eliminated. The environmental review must occur early in the design process so that potential impacts can be identified, and the design can be refined to mitigate the impacts. The permitting must be completed before construction can begin, and it is anticipated that the project will move quickly from completion of design to construction.

**Table 2. Design Project Schedule and Deliverables**

Work Task	Schedule (Begin - Complete), months after signing CALFED Contract	Deliverables
Task 1. Detailed Surveying	1 - 2	Topographic maps of area
Task 2. Detailed Geotechnical Eval.	1 - 2	Complete geotechnical report
Task 3. 30 Percent Design	2 - 4	30% plans Presentation to AFRP Technical Committee
Task 4. 90 Percent Design	6 - 9	90% plans Presentation to AFRP Technical Committee
Task 5. Technical Specifications	6 - 9	Technical specifications Presentation to AFRP Technical Committee
Task 6. Final Design and Specs.	9 - 12	100% plans and specifications
Task 7. Environmental Review	0 - 6	EA and/or IS Presentation to AFRP Technical Committee
Task 8. Permitting	3 - 12	Required permits and authorizations
Task 9. Project Management	1 - 12	Presentation to CALFED/AFRP Tech. Comm. Quarterly programmatic/fiscal progress reports Subcontract with WYA Subcontract with MontWats

### Feasibility

Several design alternatives have been **examined** during the feasibility phase of this project. The alternatives were developed based on RD 2035's operational requirements, current published

criteria for fish passage facilities established by the National Marine Fisheries Service (NMFS 1997) and the California Department of Fish and Game (CDFG 1997), American National Standards for Pump Intake Design (Hyd. Inst. 1998), current industry practice, and experience at similar facilities.

Two basic categories of alternatives were developed (1) flat screened intake with brush cleaning system and in-river pump station, and (2) cylindrical tee screen intake with air burst cleaning system and land-side pump station. Examples of existing projects which contain elements similar to the flat screened alternatives developed, include the RD 108 fish screened intake on the Sacramento River in Grimes, and the Glenn-Colusa Irrigation District fish screened intake (under construction) located between River Mile 205 and 206 on the Sacramento River near Coming. Examples of existing projects which contain elements similar to the cylindrical tee screen alternatives considered include the M&T/Parrott intake on the Sacramento River in Chico, and the Maxwell Irrigation District intake on the Sacramento River near Princeton.

It is expected that project construction can be completed within one year. It is assumed that the construction contract would be awarded in December, the submittal process: would begin in January, and actual construction would proceed from approximately April through November. A temporary coffer dam will be constructed in order to complete the in-river work. The timing of in-river work will be coordinated with the appropriate governmental agencies.

Each of the permits listed in Table 1 above will be required, with the exception of the NPDES Discharge Permit (construction area will be less than 5 acres). Based on the nature and goals of this project and experience with previous projects, no difficulty is expected in obtaining the required permits

The new pump station and fish screen will be constructed on land owned by the Conaway Conservancy Group. The Conaway Conservancy Group has granted free access to this land for surveying, geotechnical evaluation, environmental evaluation, construction, and operation. A copy of the letters requesting access and granting access are provided in Appendix B.

# **APPLICABILITY TO CALFED ERP GOALS & IMPLEMENTATION PLAN AND CVPIA PRIORITIES**

## **ERP GOALS AND CVPIA PRIORITIES**

This project will include abandonment of an existing unscreened intake and construction of a new pump station with fish screens designed per the current National Marine Fisheries Service (NMFS 1997) and the California Department of Fish and Game (CDFG 1997) standards. Project design will be based on protection of juvenile anadromous fish present in the Sacramento River at the point of diversion. The target species and life stage of concern is Winter Run Chinook Salmon fry.

The new screens will allow migrating salmon, as well as other fish species, to pass by the intake pumps without risk of entrainment and without risk of impingement on the fish screens. The project therefore protects an at-risk native species and meets Goal 1 in the ERP strategic goals as noted on Page 17 of the PSP. In addition, since salmon is a harvestable species, the project meets Goal 3 in the ERP strategic goals as noted on Page 18 of the PSP.

This project should rank high for a number of the CVPIA ranking considerations outlined in Table 1 of Page 6, Attachment G of the PSP. With regard to biological resource considerations, the project will address a major limiting factor (unscreened intake), will benefit special status species including all Chinook salmon (especially the endangered Winter Run), will benefit multiple species including salmon, steelhead, and Sacramento Splittail, will have both long-term (50-year life) and immediate (no entrainment) benefits, is proven effective (CDFG and NMFS screening criteria), and is adaptable. With regard to implementation considerations, the project funding requested is a continuation of the previously funded feasibility study (see Appendix A), uses proven positive barrier fish screen technology, can move directly into construction after the 1-year design period is complete, has no legal, regulatory or technical obstacles, and is compatible with other fish screen projects currently in place or planned for the Sacramento River. With regard to economic considerations, the estimated construction budget is consistent with other Sacramento River fish screen facilities on a dollars per cfs basis (roughly \$30,000 per cfs), and will increase energy efficiency by replacing existing inefficient 1920 vintage pumps with new efficient vertical mixed-flow pumps.

## **RELATIONSHIP TO OTHER ECOSYSTEM RESTORATION PROJECTS**

Several fish screening projects have been undertaken in recent years in an effort to improve the survival rate of migrating salmon and other native fish species in the Sacramento River. The screening of every additional unscreened intake eliminates a potential source of premature mortality for the migrating fish. It is expected that the screening of RD 2035's 400 cfs diversion will act in concert with other recent fish screen projects on the Sacramento River including the Glenn-Colusa Irrigation District intake (under construction) located between River Mile 205 and 206 near Corning, the M&T/Parrott intake in Chico, the Maxwell Irrigation District intake near Princeton, the RD 108 intake near Grimes, and the Sacramento River Water Treatment Plant Intake (in design) in Sacramento. The combined effects of these fish screening projects will be to increase the fish survival rates and aid in overall ecosystem restoration.

## REQUEST FOR NEXT PHASE FUNDING AND PREVIOUS CALFED/CVPIA FUNDING

This proposal is a request for next phase funding of an existing CALFED project. The existing CALFED Project is "RD 2035 Fish Screen Feasibility Study," and the contract number is 98-N01. Additional information about this project and its current status are presented in Appendix A. An application for CVPIA funding was made to U.S. Department of the Interior, Bureau of Reclamation for the feasibility study. A CVPIA grant was offered (offer letter dated June 29, 1999), but because the study had been previously funded by CALFED, the CVPIA grant was declined.

## SYSTEM-WIDE ECOSYSTEM BENEFITS

System-wide ecosystem benefits will be gained from this project via the increase in population of endangered and threatened native fish species. Water diversions along the Sacramento River have historically created numerous obstacles for migrating salmon and steelhead trout, primarily entrainment of juvenile salmon. Although unscreened diversions have been harmful to all Chinook salmon and steelhead trout in the Sacramento River, they have been particularly detrimental to the winter-run Chinook salmon, listed as both a federal and state endangered species in California.

The downstream migration season for juvenile Chinook salmon depends on weather and water temperatures. Some of the migration periods coincide with the normal season for irrigation water diversion at RD 2035. A summary of the normal upstream and downstream migration seasons of Chinook salmon in the Sacramento River is given in Table 3. The diversions period for RD 2035 is usually April 1 through October 31, and consequently overlaps many of the adult and juvenile salmon migration seasons. The new screened facility will prevent fish entrainment and therefore increase species' reproductive population. Reestablishment of more natural levels of native fish species will have a ripple effect on populations of both their predators and their food source and is a critical step in restoring the natural balance of the ecosystem.

**Table 3. Migration Seasons of Chinook Salmon, Sacramento River**

Species	Upstream Migration of Adults	Downstream Migration of Juveniles
Winter-Run Chinook Salmon	January - April	July - March
Spring-Run Chinook Salmon	April - August	November - February
Fall Run Chinook Salmon	July - December	January - July
Late Fall Run Chinook Salmon	October - January	April - June

This project will directly help achieve the water diversion vision (Volume 1, page 39 of the February 1999 Ecosystem Restoration Program Plan, ERP) It will also help achieve the visions for 6 out of 10 of the Priority Group 1 fish species (ERP, Volume 1, pages 32-33), including Chinook Salmon, Winter Run Chinook Salmon, Spring Run Chinook Salmon and Splittail, Late Fall Run Chinook Salmon, Fall Run Chinook Salmon, and steelhead trout. This project will also help achieve the water diversions strategic objective (ERP, Volume 1, Page 428) by leading to the construction of a positive barrier fish screen around a 400 cfs pump station intake. It will also help achieve the Chinook Salmon objectives on Pages 220 through 223 of Volume 1 of the ERP.

# QUALIFICATIONS

The qualifications of the team members are described below, including:

Facility Owner/Operator:	RD 2035
Design Team:	West Yost & Associates and Montgomery Watson
Environmental Review:	Environmental Science Associates

**RD 2035.** RD 2035 is managed by **Mr. James Staker**, General Manager. **Mr. Staker** is responsible for overall management of diversions and irrigation practices. He has managed the district for over 5 years and has a Bachelor of Science degree in Accounting and a Master of Science degree in Finance and Marketing.

**Muhammad Anwar** is RD 2035's watermaster, who is responsible for regulating the quantity of flow used by the district, and for regulating use of the water. He has worked as the district watermaster for over 10 years and manages 5 surface water pump stations,\*20 ground-water wells, and hundreds of miles of irrigation/drainage channel.

**Mike Hall** is the waterfowl and wildlife manager within RD 2035. He has helped pioneer the practice of wildlife-friendly farming through studies performed with the California Waterfowl Association, Fish and Game, and University of California at Davis. Some of his past work includes safe nesting studies, flushing bars, nest surveying, winter waterfowl surveying, wood duck nesting projects, brood pond programs, study of invertebrates with winter flooding and providing wildlife corridors along ditches and field edges.

**West Yost & Associates.** WYA has provided engineering consulting services to RD 2035 for over 10 years including modifications to pumping stations, pipeline/canal rehabilitation, and well design/construction. In addition, WYA has completed the pump station design projects listed below.

**1. Sacramento Sump 151 Storm Water Pump Station Improvements:** The project included the addition of two 300 hp pumps and two catenary trash racks to an existing pump station, replacement of one existing pump, construction of a 10' by 10' precast culvert beneath existing railroad tracks, structural modifications to the pump station structure; electrical control, system modifications – including a 750 kW standby generator with load bank and PLC control system; the construction of a concrete pump wetwell, shotcreted channel lining, a stop log structure and a 42" HDPE pump discharge pipeline installed over a levee into the American River.

**2. El Dorado/Mosher Slough Pump Station Design:** The project included four 150 hp pumps enclosed in a new pump/electrical building above a 30 foot deep with manually cleaned bar screens, and a new outfall structure and channel improvements in Mosher Slough. In addition, a 500 kW standby generator was provided as well as a load bank for exercising the unit. Site layout and noise considerations were a critical part of the design as the pump station was located within an existing City park. WYA also coordinated with local, state, and federal permitting agencies to facilitate construction within and adjacent to the existing slough.

**Montgomery Watson.** MW is an international environmental engineering firm with over 4,000 employees in more than 30 countries. MW has substantial experience with fish screen



projects throughout Northern California and the Pacific Northwest. Key individuals who will be involved with the design and quality control of this project are as follow.

**Clint W. Smith** is a supervising engineer with extensive experience in civil, environmental, and water resource engineering. He has a B.S. in Civil Engineering from Washington State University and is a Professional Civil Engineer in Washington, Oregon, and Idaho. He has served as the project engineer on several major water resources projects including the Banta–Carbona Fish Screen Project on the San Joaquin River; Ducks Unlimited/M&T Chico Ranch Pump Station and Fish Screen Project; Walterville Fish Screen Facility; White River Fish Screen Project; and Naches Fish Screen Facilities. Mr. Smith has also served as project manager for the final design and construction of new fish screens at a hydropower diversion dam on the South Fork of the Rogue River, Oregon and for the design of a saltwater intake and fish screen in San Francisco Bay.

**Dennis E. Dorratcague** is a principal engineer and the water resources director in Montgomery Watson's Northwest Region. He earned his M.S. in Civil Engineering at Colorado State University and a B.S. from University of Notre Dame. He is a Professional Civil Engineer in Washington, Oregon, Alaska, and California. He has served as technical manager for the Banta–Carbona Irrigation District Fish Screen Feasibility Study and for the preliminary and final design for a fish screen, ladder, and tailrace barrier in Western Oregon. He also was project manager for parts of the Surface Bypass Spillway Project; the hydraulic modeling, preliminary and final designs, and construction services of a fish screen on the White River in Western Washington; the preliminary and final design of a fish screen facility for Pacific Power and Light Company; and the Salmon Falls Fish Passage Project.

**Neil W. Schild** is a principal engineer with 39 years of experience in operation and maintenance of dams and water supply reservoirs and power generation projects. He earned a B.S. in Agricultural Engineering from Kansas State University and is a Professional Agricultural Engineer in California. His background includes design and construction of fish protection facilities, application of **environmental regulations**, management of water and land resources, water resource planning, project management, and administration of personnel. He was project manager for M&T Chico Ranch Fish Screen Facility, Gorrill Land Company Fish Screen and Ladders Project, and Banta–Carbona Irrigation District Feasibility Study.

**Environmental Science Associates.** Dr. Phillip Rieger will be the project manager for the environmental review/analysis of the fish screen project. Dr Rieger has a Ph.D. in Fisheries Biology from Iowa State University, a M.S. in Aquatic Ecology and a B.S. in Biology and Geography. Dr. Rieger has broad experience in environmental and fisheries studies. With the Corps of Engineers, he managed and participated in environmental review of various water resource projects including dredging and dredged material disposal, flood control, reservoir development, and fisheries restoration projects. He managed the Los Angeles District Regulatory Functions Branch South Coast Section where he prepared over a hundred environmental assessments for water resources projects. Dr. Rieger has, in recent years, designed, managed, and participated in fish protection studies including several fish screening projects at hydroelectric dams in the Midwest; fish screens for anadromous fish protection on the American River, the Russian River, and Cross Canal adjacent to the Sacramento River.

# **COST**

## **BUDGET AND COST SHARING**

This next-phase proposal is for \$1,820,000 to cover the design, specifications and environmental evaluation of the preferred fish screen option. The budget is presented by work tasks in Table 4. RD 2035 will share in the cost for this project with in-kind services of \$30,000 to cover RD 2035 staff participation in the project.

It is requested that this project be funded with State funds which could be considered a contribution toward a local cost share in a future federal funding application. If State funds are not available, federal funds would be accepted.

In the year 2001, a proposal will be submitted for funding the construction of the fish screen/pump station. At that time a design level estimate of construction costs will be known, and it currently is anticipated that the construction request will be in the \$11 million to \$13 million range.

**Table 4. Estimated Project Budget for RD 2035 Sacramento River Pump Intake Positive Barrier Fish Screen - Design and Environmental Review**

Year	Task	Direct Labor Hours	Subject to Overhead						Exempt from Overhead		Total Cost
			Salary	Benefits	Travel	Supplies and Expendables	Service Contracts	Overhead (show % here)	Equipment	Service Contracts	
Year 1	Task 1. Detailed Surveying									\$20,000	\$20,000
	Task 2. Detailed Geotechnical Eval.									\$50,000	\$50,000
	Task 3. 30 Percent Design									\$500,000	\$500,000
	Task 4. 90 Percent Design									\$500,000	\$500,000
	Task 5. Technical Specifications									\$200,000	\$200,000
	Task 6. Final Design & Specifications									\$200,000	\$200,000
	Task 7. Environmental Review									\$100,000	\$100,000
	Task 8. Permitting									\$50,000	\$50,000
	Task 9. Project Management									\$200,000	\$200,000
Total Cost Year 1			\$0	\$0	\$0	\$0	\$0	\$0	\$0	~\$1,820,000	\$1,820,000
Total Cost Year 2			—	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Project Cost			—	\$0	\$0	\$0	\$0	\$0	\$0	~\$1,820,000	\$1,820,000

## LOCAL INVOLVEMENT

Notification has been provided to the following agencies that RD 2035 is currently studying options for screening their Sacramento River pump station intake and intends to design and construct a screened intake (See Appendix C for a copy of this letter):

- Yolo County Flood Control and Water Conservation District
- City of Woodland
- City of Davis
- City of West Sacramento
- Yolo county

The AFRP Technical committee was advised of the progress of this project at their March 12, 2000 meeting.

The Conaway Conservancy Group has expressed strong support for the project. No response has been received from any other agencies.

During the environmental review process, more information and an opportunity to comment on the project will be provided to the above agencies, individuals, and adjoining landowners. Also, in advanced of the environmental review, RD 2035 is taking questions on ~~this~~ project at (530) 662-6200.

# **COMPLIANCE WITH STANDARD TERMS AND CONDITIONS**

RD 2035 agrees to comply with all State of California and Federal standard terms and conditions contained in Attachments D and E of the Ecosystem Restoration Projects and Proposals, 2001 Proposal Solicitation Package. The nondiscrimination compliance statement and application for federal assistance are provided in Appendix F.

Subcontracts for West Yost & Associates, Montgomery Watson America Inc, Taber Engineering, and Environmental Science Associates are included in Appendix D of this proposal. The subcontracts are currently unsigned, but will be signed if this proposal is funded by CALFED.

The electrical design work will be performed by the design firm A T.E.E.M. Electrical Engineering, Inc.

## LITERATURE CITED

1. National Marine Fisheries Service  
Southwest Region (NMFS 1997)  
Fish Screening Criteria for Anadromous Salmonids  
January 1997
2. California Department of Fish and Game (CDFG 1997)  
Fish Screening Criteria  
April 14, 1997
3. Glenn-Colusa Irrigation District  
Fish Screen Improvement Project (GCID 1999)  
Guidance Manual for Fish Protection Evaluation and Monitoring Program  
Prepared by Montgomery Watson, June 1999
4. California Department of Fish and Game (CDFG 1994)  
Central Valley Anadromous Sport Fish Annual Run Size Harvest, and Population  
  
Inland Fisheries Technical Report, Revised August 1994
5. American National Standards Institute Inc. (Hyd. Inst. 1998)  
American National Standard for Pump Intake Design  
Sponsor: Hydraulic Institute  
November 17, 1998

# THRESHOLD REQUIREMENT

## Local Government Notification

Copies of this application have been sent to the Yolo County Planning Department and Reclamation District 1600 (which maintains the levee at the project site). Copy of the cover letters to these agencies are provided in Appendix C. Also provided in Appendix C is a copy of a letter sent to several agencies and individuals who might be affected by the project, but do not have jurisdiction over the land use of the project area.

## Environmental Compliance and Land Use Checklist

The environmental and land use checklists are provided in Appendix E.

## Compliance with Standard Terms and Conditions

The State Nondiscrimination Compliance Statement and the Federal Standard form 424 are provided in Appendix F.

## Private Property Access

The project site is owned by the Conaway Conservancy Group. Letters requesting and granting access to the site for design and construction of the project are provided in Appendix B.

## **APPENDIX A**

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### **Summary of Status of CALFED Project 98-N01**



## APPENDIX A. SUMMARY OF STATUS OF CALFED PROJECT 98-NO1

In 1998 a proposal was submitted and approved by CALFED for a feasibility/predesign study to identify an preferred fish screen facility for the pump intakes. This feasibility/predesign study is currently underway, but not yet completed. In this feasibility study, seven fish screen alternatives were evaluated at a screening level, including:

1. Screen and access ramp around existing pump structure
2. Tee screens from existing pumping structure
3. Flat screens from existing pumping structure
4. Tee screens, gravity drain through levee to pump structure
5. Fiat screens, gravity drain through levee to pump structure
6. Flat screens around new pump structure in river
7. Flat vertical screens with underwater concrete sump in river

Options 1, 2, and 3 were eliminated based on conflicts between RD 2035's pumping requirements and construction timing requirements, and structural integrity of existing pumping structure. Options 4, 5, 6, and 7 were refined and modified into four options for a detailed evaluation, including:

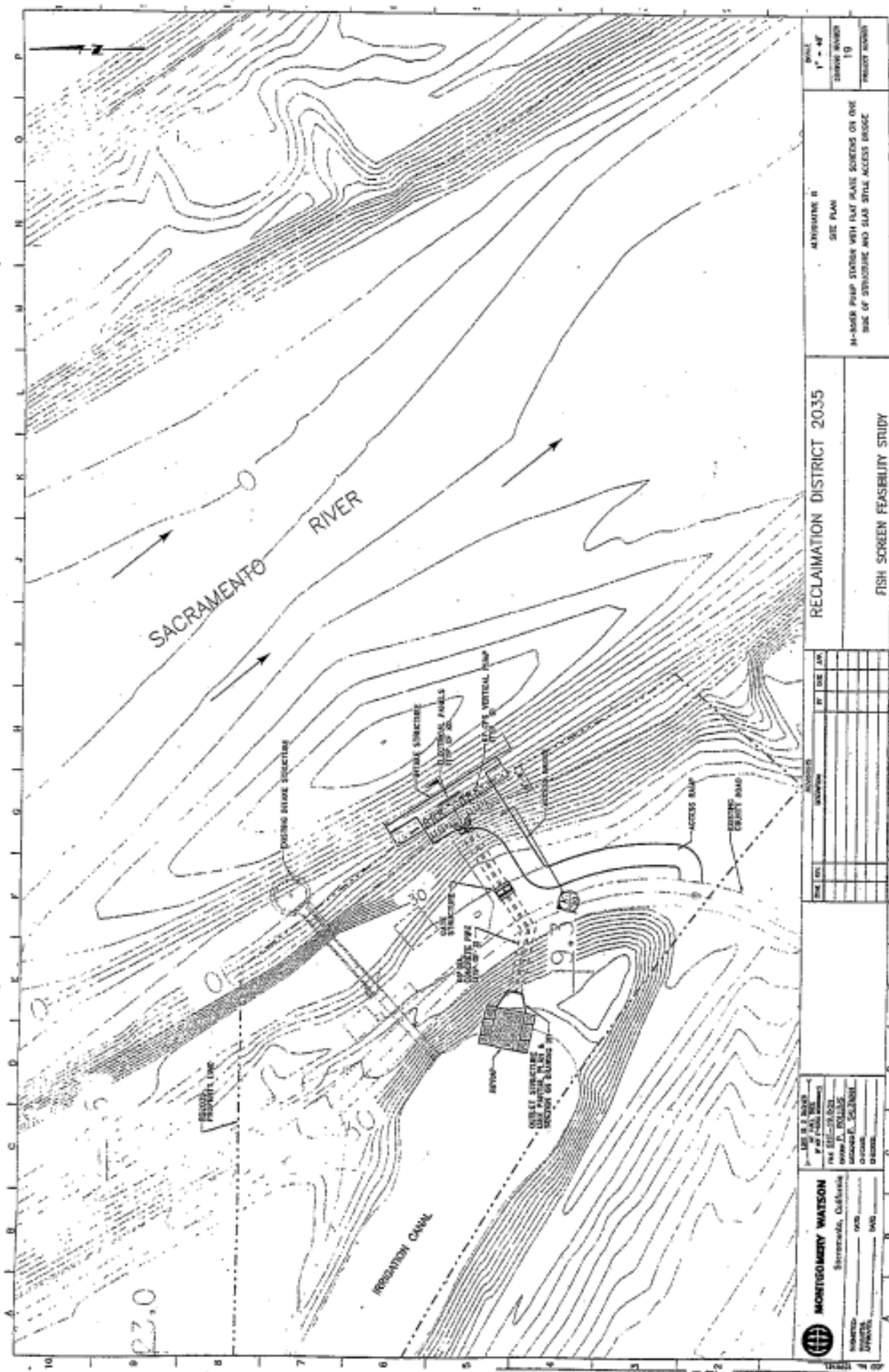
- A. In river pump station with flat plate screens on both sides of structure and box girder conduit bridge, water lifted over the levee (minimizes levee excavation)
- B. In river pump station with flat plate screens on one side of structure and slab access bridge, with water pumped through the levee
- C. Land -side pump station with cylindrical tee screen intake and slab access bridge, with water gravity draining through the levee
- D. Land-side pump station with cylindrical tee screen intake and graded crane access ramp, with water gravity draining through the levee

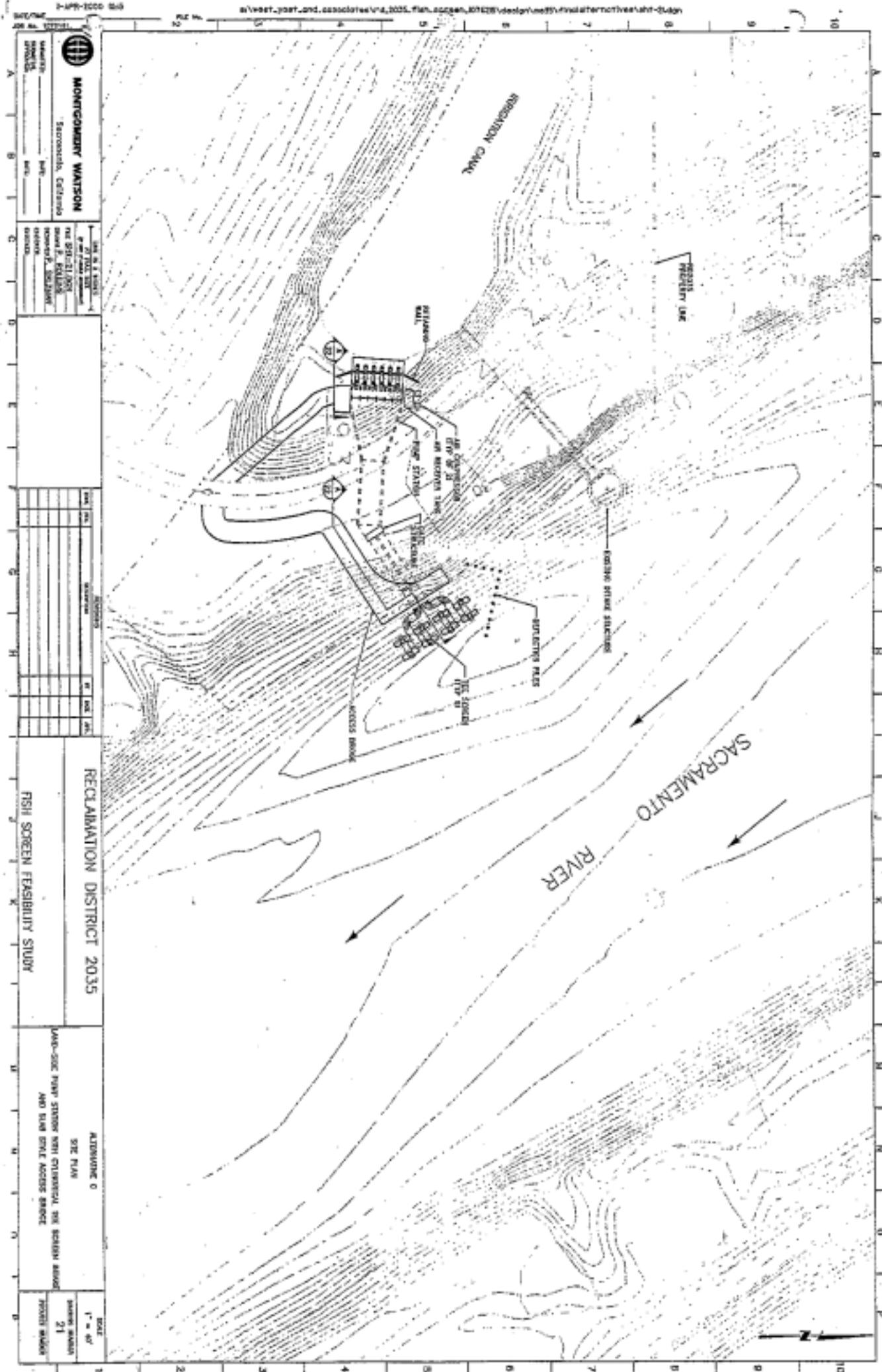
A preferred alternative is currently being developed which combines the best aspects from Alternatives B and C.

Schematic layouts of Alternatives B and C are presented at the end of this appendix, and preliminary construction cost estimates are presented in Table A-I. Final identification of a preferred alternative is anticipated by the end of May 2000.

**Table A1. Construction Cost Estimates for Alternatives B and C**

Item	Alternative B Estimated Cost, dollars	Alternative C Estimated Cost, dollars
Mobilization and Demobilization	390,000	390,000
General Civil Work	2,630,000	2,880,000
Intake Structure (Includes <b>pump</b> station for Alternative B)	4,380,000	2,500,000
Bridge	630,000	690,000
Pipe Manifold and Transmission Pipeline	440,000	380,000
Gate Structure	130,000	130,000
Outlet Structure (Includes <b>pump</b> station for Alternative C)	130,000	2,250,000
Electrical/Instrumentation	630,000	630,000
Construction Subtotal	9,360,000	9,850,000
Overhead/Profit and Insurance/Bonds	1,400,000	1,480,000
Project Administration/Construction Management	940,000	980,000
Total	11,700,000	12,310,000





## **APPENDIX B**

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### **Letters to/from Conaway Conservancy Group Granting Access to Private Property**

**Reclamation District #2035**  
45332 County Road 25, Woodland CA 95776  
(530) 662-9080

April 20, 2000

Ms. Regina Cherovsky  
Project Manager  
Conaway Conservancy Group  
45332 County Road 25  
Woodland, CA 95776

Dear Regina:

As you are aware, the district has been moving forward with a feasibility study for screening its Sacramento River diversion structure. This study will be finished soon and we anticipate moving forward with another application to CALFED for design and environmental studies.

If successful, the screening of this facility will prevent the entrainment of juvenile salmonid and other fish of special concern, thereby ensuring a reliable yet environmentally sound point of diversion. As we move this project forward, it will be vital that we receive permission for ingress and egress from the Conaway Ranch since much of the construction is likely to occur on lands owned by Conaway.

Your attention to this request is greatly appreciated.

Very truly yours,



James D. Staker  
General Manager

May 1, 1999

Mr. James D. Staker, General Manager  
Reclamation District #2035  
45332 County Road 25  
Woodland, CA 95776

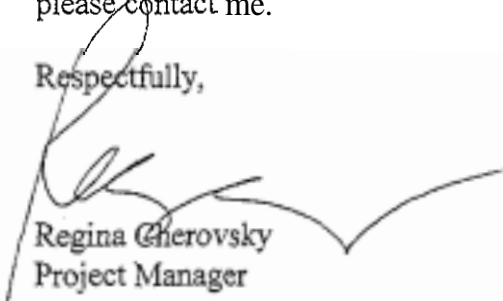
Dear Jim:

We are pleased that the district is moving forward with the screening of its diversion intake on the Sacramento River. As the major landowner in the district, we perceive that the screening of the structure will provide a benefit to us and to our farm tenants. We also recognize that we own the land on which the pump facility exists.

Consequently, we are interested in seeing that the district is able to accomplish its goal of screening its intake structure and expect to accommodate reasonable requests for ingress and egress as well as construction and operations agreements as may be necessary. We would also expect a reasonable opportunity to be able to review any plans and make any suggestions **we** feel appropriate prior to construction of a screened facility.

Should you have any questions regarding our assurances to cooperate in this project, please contact me.

Respectfully,



Regina Cherovsky  
Project Manager

## **APPENDIX C**

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### **Public Notice of Project**



**Reclamation District #2035**  
45332 County Road 25, Woodland CA 95116  
(530) 662-9080

May 11, 2000

John Bencomo  
Planning Director  
Yolo County Planning Department  
292 W Beamer  
Woodland, CA 95695

Dear Mr. Bencomo:


In 1998 Reclamation District 2035 received a grant from CALFED to evaluate **the** feasibility of screening our Sacramento River pump station intake, located just north of the Interstate-5 bridge. This feasibility/pre-design study is currently underway. In this feasibility study, four fish screen/pump station options were evaluated in detail, including:

- A. In river pump station with flat plate screens on both sides of structure and box girder conduit bridge, water lifted over the levee (minimizes levee excavation)
- B. In river pump station with flat plate screens on one side of structure and slab access bridge, with water pumped through the levee
- C. Land-side pump station with cylindrical tee screen intake and slab access bridge, with water gravity draining through the levee
- D. Land-side pump station with cylindrical tee screen intake and graded crane access ramp, with water gravity draining through the levee

A preferred alternative is currently being developed which combines the best aspects from alternatives B and C. Final identification of a preferred alternative is anticipated by the end of May, 2000.

The District has just prepared a proposal to CALFED for the next phase of this project, specifically for funding of the design and environmental review of the preferred alternative. One of the requirements of the CALFED proposal process is that we **notify** the agencies with jurisdiction over the land use of our project site. Consequently, we are providing you this copy of our CALFED proposal (attached).

Please feel free to call me if you have any questions or comments at 662-6200.

  
Jim Staker  
General Manager

attachment

## Reclamation District #2035

45332 County Road 25. Woodland CA 95116  
(530) 662-9080

May 11, 2000

Kent Lang  
General Manager  
Reclamation District 1600  
21548 Old River Road  
West Sacramento, CA 95691

Dear Mr. Lang:

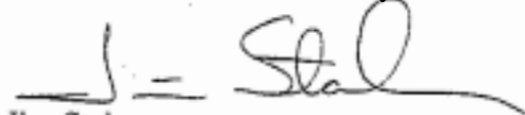
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The District has just prepared a proposal to CALFED for the next phase of this project, specifically for funding of the design and environmental review of the preferred alternative. One of the requirements of the CALFED proposal process is that we notify the agencies with jurisdiction over the land use of our project site. Consequently, we are providing you two copies of our CALFED proposal (attached).

Please feel free to call me if you have any questions or comments at 662-6200.



Jim Staker  
General Manager

attachment

**Reclamation District #2035**  
45332 County Road 25, Woodland CA 95776  
(530) 662-9080

May 12, 2000

Richard Kirkwood  
City Manager  
City of Woodland  
300 First Street  
Woodland, CA 95695

Dear Rick:

Reclamation District #2035 is currently studying options to provide fish screens at our Sacramento River pump station intake, located just upstream from the Vietnam Veterans Memorial Bridge on Interstate 5. The ultimate goal of this project is to preclude the entrainment of juvenile salmon and other fish at the District's diversion. We have evaluated 7 options at an initial screening level of detail. We have eliminated those options which would screen the existing facility for a number of reasons, including conflicts between the District's pumping requirements and construction timing requirements, and the uncertain structural integrity of the existing 90 year old pumping structure. Therefore, we are reviewing those alternatives which would provide a new structure and levee crossing and expect to identify a preferred option within several weeks.

This current study was funded by a grant from CALFED in 1990. We are now preparing a grant application to CALFED for environmental review of the preferred option and subsequent design of the approved project. During the environmental review process, we will provide you with more detailed information on the project, and will provide you an opportunity to comment on the project. However, if you would like more information prior to the environmental review, please don't hesitate to call me at (530) 662-6200 or on my cell phone at (530) 308-0680.

Very truly yours,



James D. Staker  
General Manager

Cc: See Attached

John Meyer  
City Manager  
City of Davis  
23 Russel Blvd  
Davis, CA 95616

City Manager  
City of West Sacramento  
2101 Stone Blvd  
West Sacramento, CA 95691

John Bencomo  
Planning Director  
Yolo County Planning Department  
292 W. Beamer  
Woodland, CA 95695

James E. Eagan  
General Manager  
Yolo County Flood Control & Water Conservation District  
34274 State Highway 16  
Woodland, CA 95695

**Reclamation District #2035**  
45332 County Road **25**, Woodland CA 95776  
(530) 662-9080

May 12,2000

John Meyer  
City Manager  
City of Davis  
23 Russel Blvd  
Davis, CA 95616

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'Very truly yours,

  
J. D. Staker

General Manager

Cc: See Attached

**Reclamation District #2035**  
45332 County Road 25, Woodland CA 95116  
(530) 662-9080


May 12, 2000

City Manager  
City of West Sacramento  
2101 Stone Blvd  
West Sacramento, CA 95691

Reclamation District #2035 is currently studying options to provide fish screens at our Sacramento River pump station intake, located just upstream from the Vietnam Veterans Memorial Bridge on Interstate 5. The ultimate goal of this project is to preclude the entrainment of juvenile salmon and other fish at the District's diversion. We have evaluated 7 options at an initial screening level of detail. We have eliminated those options which would screen the existing facility for a number of reasons, including conflicts between the District's pumping requirements and construction timing requirements, and the uncertain structural integrity of the existing 90 year old pumping structure. Therefore, we are reviewing those alternatives which would provide a new structure and levee crossing and expect to identify a preferred option within several weeks.

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Very truly yours,

  
James D. Staker  
General Manager

Cc: See Attached

**Reclamation District #2035**  
45332 County Road 25, Woodland CA 95776  
(530) 662-9080

May 12, 2000

John Bencomo  
Planning Director  
Yolo County Planning Department  
292 W. Beamer  
Woodland, CA 95695

Dear Mr. Bencomo:

Reclamation District #2035 is currently studying options to provide fish screens at our Sacramento River pump station intake, located just upstream from the Vietnam Veterans Memorial Bridge on Interstate 5. The ultimate goal of this project is to preclude the entrainment of juvenile salmon and other fish at the District's diversion. We have evaluated 7 options at an initial screening level of detail. We have eliminated those options which would screen the existing facility for a number of reasons, including conflicts between the District's pumping requirements and construction timing requirements, and the uncertain structural integrity of the existing 90 year old pumping structure. Therefore, we are reviewing those alternatives which would provide a new structure and levee crossing and expect to identify a preferred option within several weeks.

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Very truly yours,

J. D. Staker 

General Manager

Cc: See Attached

**Reclamation District #2035**  
45332 County Road 25, Woodland CA 95716  
(530) 662-9080

May 12, 2000

James E. Eagan  
General Manager  
Yolo County Flood Control & Water Conservation District  
34274 State Highway 16  
Woodland, CA 95695

Dear Jim:

Reclamation District #2035 is currently studying options to provide fish screens at ~~our~~ Sacramento River pump station intake, located just upstream from the Vietnam Veterans Memorial Bridge on Interstate 5. The ultimate goal of this project is to preclude the entrainment of juvenile salmon and other fish at the District's diversion. We have evaluated 7 options at an initial screening level of detail. We have eliminated those options which would screen the existing facility for a number of reasons, including conflicts between *the* District's pumping requirements and construction timing requirements, and the uncertain structural integrity of the existing 90 year old pumping structure. Therefore, we are reviewing those alternatives which would provide a new structure and levee crossing and expect to identify a preferred option within several weeks.

This current study was funded by a grant from CALFED in 1990. We are now preparing a grant application to CALFED for environmental review of the preferred option and subsequent design of the approved project. During *the* environmental review process, we will provide you with more detailed information on the project, and will provide you an opportunity to comment on the project. However, if you would like more information prior to the environmental review, please don't hesitate to call me at (530) 662-6200 or on my cell phone at (530) 308-0680.

Very truly yours,



James D. Staker  
General Manager

Cc: See Attached



## **APPENDIX D**

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### **Subcontracts with West Yost & Associates, Montgomery Watson, America Inc., Taber Engineering, and Environmental Science Associates**

*These subcontracts are unsigned at this time,  
but will be signed if this proposal is funded by CALFED.*

**Subcontract  
(Task Order No. 19)**

**Design Services for Fish Screens/Pump Station For  
RD 2035 Sacramento River Pump Station Improvements**

In accordance with the Task Order Agreement between Reclamation District 2035 (Client) and West Yost & Associates, Inc. (Consultant), dated July 1, 1991, Consultant is authorized to complete the work scope defined in this Task Order No. 19 (Subcontract) according to the schedule and budget defined herein.

**WORK SCOPE**

The purpose of this Subcontract is:

- To prepare design drawings to a 30, 90, and 100 percent level and technical specifications suitable for bidding the construction of a Sacramento River Pump Station and Fish Screen Facility,
- To prepare the environmental review of the project
- To obtain the necessary construction permits

The scope of work is described in the following work tasks. The deliverables for each task are identified in Table 1 following the task descriptions, and will be provided to CALFED in both paper and electronic formats.

**Task 1. Detailed Surveying**

Consultant shall perform detailed above ground and under water surveying of the site needed for the selected alternative. For the feasibility study, existing U.S. Army Corp of Engineers topographic mapping above and below the river water level shall be used, along with field surveys to verify elevations of critical structures. For this design effort, additional detailed under water surveying will be undertaken to verify the river bottom and levee bank topography.

**Task 2. Detailed Geotechnical Evaluation**

Obtain above ground and underwater geotechnical data required to design the structure, including electronic cone penetration test, six borings, and laboratory testing of soil samples.

**Task 3. 30 Percent Design**

Consultant shall complete the design of the facilities to a 30 percent level. The design drawings will include general civil, structural, mechanical, and electrical plans. The 30 percent plans will receive an in-house Quality Assurance/Quality Control (QNQC) review, which will include a value engineering evaluation. Presentation to and review by the CALFED and the AFRP Technical Committee will be sought.

**Task 4. 90 Percent Design**

Consultant shall continue the design of the positive barrier fish screen to a 90 percent level, including addressing comments received on the 30 percent drawings and implementing

mitigation measures as necessary based on the environmental review. A QA/QC review will be provided. Presentation to and review by CALFED and the AFRP Technical Committee will be sought.

#### Task 5. Technical Specifications

Consultant shall prepare technical specifications for construction. The request for bids will not actually be prepared or advertised until construction funding is secured. A QA/QC review will be provided. Review by CALFED, QNQC, and the AFRP Technical Committee will be sought at this point.

#### Task 6. Final Design and Specifications

One hundred percent (100%) design plans and final technical specifications will be prepared incorporating comments and questions from the reviewers. Final plans and specifications will be provided to CALFED and AFRP Technical Committee, and presentation to and review by the AFRP Technical Committee will be sought.

#### Task 7. Environmental Review

The environmental work will consist of applying for and obtaining the environmental clearances required for implementation of the fish screen project. Environmental documentation will be prepared. If the project is to receive federal funding, an Environmental Assessment (EA) will be prepared for the federal lead. If the project is to receive state funding, an Initial Study (IS) will be prepared for the state lead. If necessary both an EA and an IS will be prepared. Presentation to and review by the CALFED and the AFRP Technical Committee will be sought.

#### Task 8. Permitting

In addition to the environmental documentation, the required permits and authorizations for construction of the project will be secured.

#### Task 9. Project Management

The project will be actively managed to ensure the budget and schedule requirements are achieved. Client will take the lead on this task by ensuring the work tasks, deliverables, and progress reports are completed on schedule and on budget. Contracting and subcontracting of the above work tasks will also be completed under this task.

### BUDGET

The budget for Consultant's services is presented by work task in Table 1, and shall not exceed \$1,820,000.

Table 1. Project Budget

Work Task	Budget, dollars
Task 1. Detailed Surveying	20,000
Task 2. Detailed Geotechnical Evaluation	50,000
Task 3. 30 Percent Design	500,000
Task 4. 90 Percent Design	500,000

Work Task	Budget, dollars
Task 5. Technical Specifications	200,000
Task 6. Final Design and Specifications	200,000
Task 7. Environmental Review	100,000
Task 8. Permitting	50,000
Task 9. Project Management	200,000
<b>Total</b>	<b>1,820,000</b>

### COMPENSATION

Compensation shall be in accordance with the provisions of the Task Order Agreement between Client and Consultant dated July 1, 1991 and the billing rate schedule contained in Exhibit A of that Agreement updated to reflect the current billing rates.

The compensation limit for services performed by Consultant under this task order shall not exceed \$1,820,000. If additional funds are required to complete the services defined herein beyond this limit, Consultant shall notify Client in writing prior to reaching the authorized limit, and will not proceed with work in excess of the limit without the prior written approval of Client.

### SCHEDULE

The proposed work schedule and work products are presented in Table 2. The schedule for completion of each work task is provided in Table 2 in terms of months after the proposal is funded and a contract signed.

Table 2. Design Project Schedule and Deliverables

Work Task	Schedule (Begin -, Complete), months after signing CALFED Contract	Deliverables
Task 1. Detailed Surveying	1 - 2	Topographic maps of area
Task 2. Detailed Geotechnical Eval.	1 - 2	Complete geotechnical report
Task 3. 30 Percent Design	2 - 4	30% plans Presentation to AFRP Technical Committee
Task 4. 90 Percent Design	6 - 9	90% plans Presentation to AFRP Technical Committee
Task 5. Technical Specifications	6 - 9	Technical specifications Presentation to AFRP Technical Committee
Task 6. Final Design and Specs.	9 - 12	100% plans and specifications
Task 7. Environmental Review	0 - 6	EA and/or IS Presentation to AFRP Technical Committee
Task 8. Permitting	3 - 12	Required permits and authorizations
Task 9. Project Management	1 - 12	Presentation to CALFED/AFRP Tech. Comm. Quarterly programmatic/fiscal progress reports Subcontract with WYA Subcontract with MontWats

## TERM OF SUBCONTRACT

The term of this Subcontract shall be defined later, and will be based on the term of the contract for this project between Client and CALFED.

## SUBCONTRACTING

Consultant is responsible for all subcontracted work. Subcontract terms and conditions should include all applicable Subcontract terms and conditions as presented herein.

Of the geotechnical work, \$33,000 will be subcontracted to Taber Engineering. Of the environmental review and analysis, \$78,000 will be subcontracted to Environmental Science Associates. Of the design work, about \$753,000 will be subcontracted to Montgomery Watson America, Inc. The electrical design work will be subcontracted to *the* design firm A T.E.E.M. Electrical Engineering, Inc.

## CONFLICT OF INTEREST

Consultant shall comply with all applicable state laws and rules pertaining to conflicts of interest, including but not limited to, Government Code Section 1090 and Public Contract Code 10410 and 10411.

## STANDARD OF PROFESSIONALISM

Consultant shall conduct all work consistent with professional standards for the industry and type of work being performed under the Subcontract.

## RIGHTS IN DATA

All data and information obtained ~~and~~/or received under this Subcontract shall be in the public domain. Consultant shall have the right to disclose, disseminate, and use, in whole or part, any final form 'data and information received, collected, and developed under this agreement, subject to inclusion of appropriate written acknowledgement of credit to the State, National Fisheries and Wildlife Foundation (NFWF), CALFED, and all cost sharing partners for their financial support. Use of draft data requires pre-approval by the State or NFWF and CALFED. Consultant shall not sell or grant rights to a third party who intends to sell such product as a profit-making venture.

## INDEMNIFICATION

Consultant agrees to indemnify, defend, and save harmless Client, the State or NFWF, CALFED Agencies, *the* Resources Agency, or Department of Water Resources, its officers, agents, and employees ~~from~~ any and all claims and losses accruing or resulting to any or all contractors, subcontractors, material persons, laborers, and any other person, firm, or corporation furnishing or supplying work services, materials, or supplies in connection with the negligent performance of this Subcontract, and ~~from~~ any and all claims and losses accruing or resulting to any person, firm, or corporation who may be injured or damaged by Consultant in *the* negligent performance of this Subcontract.

## INDEPENDENT STATUS

Consultant, and the officers, agents, and employees of Consultant, in *the* performance of this Subcontract, shall act in an independent capacity and not as officers, employees, or agents of the

State of California. NFWF, CALFED Agencies, the Resources Agency, or Department of Water Resources.

### ASSIGNMENT

Without the written consent of the State, this Subcontract is not assignable by Consultant in whole or in part, except the subcontracting identified above.

### AMENDMENTS

By mutual agreement, the parties may amend this Subcontract. Consultant shall submit a written request for amendment to Client, who will in turn submit the request to ~~NFWF~~ and CALFED. The amendment is not effective until NFWF, CALFED, and Client provide written approval of the amendment, its terms, and conditions. Work completed prior to approval of an amendment is done at Consultant's risk, without expectation of reimbursement.

WEST YOST & ASSOCIATES, INC.

RECLAMATION DISTRICT 2035

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

James A. Yost  
\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Printed Name

Principal  
\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

Subcontract  
(Task Order **No. 6**)

Fish Screens — Feasibility Study

This Task Order No. 6 (Subcontract), the Task Order Agreement dated May 18, 1998, and Subconsultant's current billing rate schedule constitute the Subcontract for the services defined herein.

In accordance with the Task Order Agreement between West Yost & Associates, Inc. (Consultant), and Montgomery Watson America, Inc. (Subconsultant), dated May 18, 1998 and Subconsultant's current billing rate schedule, Subconsultant is authorized to complete the work scope defined in this Subcontract according to the schedule and budget defined herein.

**WORK SCOPE**

The purpose of the Subcontract is .

- To prepare design drawings to a 30, 90, and 100 percent level and technical specifications suitable for bidding the construction of a Sacramento River Pump Station and Fish Screen Facility
- To provide required support for environmental review of the project
- To obtain the necessary construction permits

The scope of work is described in the following work tasks. The deliverables for each task are identified in Table 1 following the task descriptions, and will be provided to CALFED in both paper and electronic formats.

**Task 1. Detailed Surveying**

Subconsultant shall provide support for the surveying needed for design of the pump station and fish screen.

**Task 2. Detailed Geotechnical Evaluation**

Subconsultant shall provide support for the geotechnical investigation for design of the pump station and fish screen.

**Task 3. 30 Percent Design**

Subconsultant shall complete the design of the facilities to a 30 percent level. The design drawings will include general civil, structural, mechanical, and electrical plans. The 30 percent plans will receive an in-house Quality Assurance/Quality Control (QA/QC) review, which will include a value engineering evaluation. Presentation to and review by the CALFED and the AFRP Technical Committee will be sought.

#### **Task 4. 90 Percent Design**

Subconsultant shall continue the design of the positive barrier fish screen to a 90 percent level, including addressing comments received on the 30 percent drawings and implementing mitigation measures as necessary based on the environmental review. A QNQC review will be provided. Presentation to and review by CALFED and the AFRP Technical Committee will be sought.

#### **Task 5. Technical Specifications**

Subconsultant shall prepare technical specifications for construction. The request for bids will not actually be prepared or advertised until construction funding is secured. A QNQC review will be provided. Review by CALFED, QNQC, and the AFRP Technical Committee will be sought at this point.

#### **Task 6. Final Design and Specifications**

One hundred percent (100%) design plans and final technical specifications will be prepared incorporating comments and questions from the reviewers. Final plans and specifications will be provided to CALFED and AFRP Technical Committee, and presentation to and review by the AFRP Technical Committee will be sought.

#### **Task 7. Environmental Review**

Subconsultant shall provide support for the environmental review process.

#### **Task 8. Permitting**

In addition to the environmental documentation, the required permits and authorizations for construction of the project will be secured.

#### **Task 9. Project Management**

The project will be actively managed to ensure the budget and schedule requirements are achieved. RD 2035 will take the lead on this task by ensuring the work tasks, deliverables, and progress reports are completed on schedule and on budget. Contracting and subcontracting of the above work tasks will also be completed under this task.

#### **BUDGET**

The budget for Subconsultant's services is presented by work task in Table 1, and shall not exceed \$753,000.



**Table 1. Project Budget**

Work Task	Budget, dollars
Task 1. Detailed Surveying	3,000
Task 2. Detailed Geotechnical Evaluation	5,000
Task 3. 30 Percent Design	225,000
Task 4. 90 Percent Design	225,000
Task 5. Technical Specifications	85,000
Task 6. Final Design and Specifications	85,000
Task 7. Environmental Review	10,000
Task 8. Permitting	30,000
Task 9. Project Management	85,000
Total	753,000

**COMPENSATION**

Compensation shall be in accordance with the provisions of the Task Order Agreement between Consultant and Subconsultant, dated May 18, 1998, and Subconsultant's current billing rate schedule.

The compensation limit for services performed under this Subcontract shall not exceed \$753,000. If additional funds are required to complete the services defined herein beyond this limit, Subconsultant shall notify Consultant in writing prior to reaching the authorized limit, and will not proceed with work in excess of the limit without the prior written approval of Consultant.

The proposed work schedule and work products are presented in Table 2. The schedule for completion of each work task is provided in Table 2 in terms of months after the proposal is funded and a contract signed.

**Table 2. Design Project Schedule and Deliverables**

Work Task	Schedule (Begin - Complete), months after signing CALFED Contract	Deliverables
Task 1. Detailed Surveying	1 - 2	No deliverable
Task 2. Detailed Geotechnical Eval.	1 - 2	No deliverable
Task 3. 30 Percent Design	2 - 4	30% plans Presentation to AFRP Technical Committee
Task 4. 90 Percent Design	6 - 9	90% plans Presentation to AFRP Technical Committee

Work Task	Schedule (Begin – Complete), months after signing CALFED Contract	Deliverables
Task 5. Technical Specifications	6 – 9	Technical specifications Presentation to AFRP Technical Committee
Task 6. Final Design and Specs.	9 – 12	100% plans and specifications
Task 7. Environmental Review	0 – 6	No deliverable
Task 8. Permitting	3 – 12	Required permits and authorizations
Task 9. Project Management	1 – 12	Presentation to CALFED/AFRP Tech. Comm. Quarterly programmatic/fiscal progress reports Subcontract with WYA Subcontract with MontWats

### TERM OF SUBCONTRACT

The term of this Subcontract shall be defined later, and will be based on the term of the contract for this project between RD 2035 and CALFED.

### SUBCONTRACTING

Subconsultant is responsible for all subcontracted work. Subcontract terms and conditions should include all applicable Subcontract terms and conditions as presented herein.

### CONFLICT OF INTEREST

Subconsultant shall comply with all applicable state laws and rules pertaining to conflicts of interest, including but not limited to, Government Code Section 1090 and Public Contract Code 10410 and 10411.

### STANDARD OF PROFESSIONALISM

Subconsultant shall conduct all work consistent with professional standards for the industry and type of work being performed under the Subcontract.

### RIGHTS IN DATA

All data and information obtained and/or received under this Subcontract shall be in the public domain. Subconsultant shall have the right to disclose, disseminate, and use, in whole or part, any final form data and information received, collected, and developed under this agreement, subject to inclusion of appropriate written acknowledgement of credit to the State, National Fisheries and Wildlife Foundation (NFWF), CALFED, and all cost sharing partners for *their* financial support. Use of draft data requires pre-approval by the State or NFWF and CALFED. Subconsultant shall not sell or grant rights to a third party who intends to sell such product as a profit-making venture.

## INDEMNIFICATION

Subconsultant agrees to indemnify, defend, and save harmless Consultant, Client, the State or NFWF, CALFED Agencies, the Resources Agency, or Department of Water Resources, its officers, agents, and employees from any and all claims and losses accruing or resulting to any or all contractors, subcontractors, material persons, laborers, and any other person, firm, or corporation furnishing or supplying work services, materials, or supplies in connection with the negligent performance of this Subcontract, and from any and all claims and losses accruing or resulting to any person, firm, or corporation who may be injured or damaged by Subconsultant in the negligent performance of this Subcontract.

## INDEPENDENT STATUS

Subconsultant, and the officers, agents, and employees of Subconsultant, in the performance of this Subcontract, shall act in an independent capacity and not as officers, employees, or agents of Client, the State of California, NFWF, CALFED Agencies, the Resources Agency, or Department of Water Resources.

## ASSIGNMENT

Without the written consent of the State, this Subcontract is not assignable by Subconsultant in whole or in part.

## AMENDMENTS

By mutual agreement, the parties may amend this Subcontract. Subconsultant shall submit a written request for amendment to Consultant, who will in turn submit the request to Client, NFWF, and CALFED. The amendment is not effective until Client, NFWF, CALFED, and Consultant provide written approval of the amendment, its terms, and conditions. Work completed prior to approval of an amendment is done at Subconsultant's risk, without expectation of reimbursement.

WEST YOST & ASSOCIATES, INC.

MONTGOMERY WATSON AMERICA, INC.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
James A. Yost

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

**Subcontract  
(Task Order No. 2)**

**Design Services for Fish Screens/Pump Station For  
RD 2035 Sacramento River Pump Station Improvements —  
Geotechnical Engineering**

In accordance with the Task Order Agreement between West Yost & Associates, Inc. (Consultant), and Taber Consultants (Subconsultant), dated November 15, 1999, Subconsultant is authorized to complete the work scope defined in this Task Order No. 2 (Subcontract) according to the schedule and budget defined herein.

**WORK SCOPE**

Work to be performed by Subconsultant is 'described in the attached letter proposal dated May 5,2000 from Franklin P. Taber to Consultant (Doug Moore).

**BUDGET**

The costs for Subconsultant's services are described in the attached letter proposal dated May 5,2000 from Franklin P. Taber to Consultant (Doug Moore). Total cost shall not exceed \$33,000 without prior authorization for mutually agreed change in scope of services.

**COMPENSATION**

Compensation shall be in accordance with the provisions of the Task Order Agreement between Consultant and Subconsultant.

The compensation limit for services performed under this Subcontract shall not exceed \$33,000. If additional funds are required to complete the services defined herein beyond this limit, Subconsultant shall notify Consultant in writing prior to reaching the authorized h i t , and will not proceed with work in excess of the limit without the prior written approval of Consultant.

**SCHEDULE**

The schedule for completion of Subconsultant's services are described in the attached letter proposal dated May 5,2000 from Franklin P. Taber to Consultant (Doug Moore). A draft report is anticipated within 16 weeks of receipt of Notice to Proceed, and a final report is anticipated within 2 weeks of receipt of comments on the draft report.

**TERM OF SUBCONTRACT**

The term of this Subcontract shall be defined later, and will be based on the term of the contract for this project between RD 2035 and CALFED.

**SUBCONTRACTING**

Subconsultant is responsible for all subcontracted work. Subcontract terms and conditions should include all applicable Subcontract terms and conditions as presented herein.

### CONFLICT OF INTEREST

Subconsultant shall comply with all applicable state laws and rules pertaining to conflicts of interest, including but not limited to, Government Code Section 1090 and Public Contract Code 10410 and 10411.

### STANDARD OF PROFESSIONALISM

Subconsultant shall conduct all work consistent with professional standards for the industry and type of work being performed under the Subcontract.

### RIGHTS IN DATA

All data and information obtained and/or received under this Subcontract shall be in the public domain. Subconsultant shall have the right to disclose, disseminate, and use, in whole or part, any final form data and information received, collected, and developed under this agreement, subject to inclusion of appropriate written acknowledgement of credit to the State, National Fisheries and Wildlife Foundation (NFWF), CALFED, and all cost sharing partners for their financial support. Use of draft data requires pre-approval by the State or NFWF and CALFED. Subconsultant shall not sell or grant rights to a third party who intends to sell such product as a profit-making venture.

### INDEMNIFICATION

Subconsultant agrees to indemnify, defend, and save harmless Consultant, Client, the State or NFWF, CALFED Agencies, the Resources Agency, or Department of Water Resources, its officers, agents, and employees from any and all claims and losses accruing or resulting to any or all contractors, subcontractors, material persons, laborers, and any other person, firm, or corporation furnishing or supplying work services, materials, or supplies in connection with the negligent performance of this Subcontract, and from any and all claims and losses accruing or resulting to any person, firm, or corporation who may be injured or damaged by Subconsultant in the negligent performance of this Subcontract.

### INDEPENDENT STATUS

Subconsultant, and the officers, agents, and employees of Subconsultant, in the performance of this Subcontract, shall act in an independent capacity and not as officers, employees, or agents of Consultant, Client, the State of California, NFWF, CALFED Agencies, the Resources Agency, or Department of Water Resources.

### ASSIGNMENT

Without the written consent of the State, this Subcontract is not assignable by Subconsultant in whole or in part.

### AMENDMENTS

By mutual agreement, the parties may amend this Subcontract. Subconsultant shall submit a written request for amendment to Consultant, who will in turn submit the request to Client,

NFWF and CALFED. The amendment is not effective until Consultant, Client, NFWF, and CALFED provide written approval of the amendment, its terms, and conditions. Work completed prior to approval of an amendment is done at Subconsultant's risk, without expectation of reimbursement.

WEST YOST & ASSOCIATES, WC.

TABER CONSULTANTS

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
James A. Yost  
Printed Name

\_\_\_\_\_  
Franklin P. Taber  
Printed Name

\_\_\_\_\_  
Principal  
Title

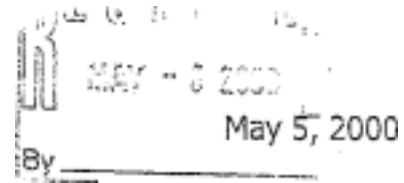
\_\_\_\_\_  
Title

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Date

\_\_\_\_\_  
Date



3911 West Capitol Avenue  
West Sacramento, CA 95691-2116  
(916) 371-1690  
(707) 575-1568  
Fax (916) 371-7265  
www.taberconsultants.com



West Yost & Associates  
1260 Lake Boulevard, Suite 240  
Davis, California 95616

Attention: Doug Moore

Subject: Geotechnical Services-Design Study  
R.D. 2035 Sacramento River Pump Station  
Yolo County, California

1P2/399/239-2  
38121-F6:185N;013W

We have reviewed preliminary site plans for this project and are pleased to submit this proposal to provide geotechnical engineering services in support of design of new facility. Feasibility study for this project was the subject of our letter report dated April 10, 2000.

In general, our proposed services include drilling, sampling and logging test borings, field and laboratory soil testing, the test boring logs, and summary report of study with foundation and earthwork recommendations, consultation and plan review.

### **Background/Basis**

This proposal refers to "Fish Screen Feasibility Study" drawings by Montgomery Watson showing three alternative designs for a new pumping plant facility at this site. We assume that a specific alternative will be selected before starting geotechnical design study.

In general structure elements include: a fish screen/intake in the river; an access bridge spanning from the top of levee to the intake structure; a pipeline—including a gate structure—from the intake through the levee to the irrigation canal; and an outlet structure, most likely incorporating a 10-15k.R high headwall. In two alternatives, the pumps are to be located at the intake structure and in the third, the pumps will be located at the outlet end and pipeline invert will be much lower.

Based on preliminary study, major structure elements are expected to be pile supported. Adequate at-grade soil support is likely available for the pipeline and small appurtenant structures and might be available for gate structure and outlet works. Much of construction is expected to require making shored excavations, likely sheet-pile cofferdams. Earthwork will include excavation backfill, low fills (to 3-5±ft) for approach to access bridge and may include 8-10±ft high embankment for an access road in the irrigation canal.

### **Scope of Services**

The initial part of subsurface investigation will consist of making two (2) electronic Cone Penetration Tests to depths of 80-100±ft (or to refusal). The Cone Penetration Tests provide a continuous profile that can be correlated to soil texture,

West Yost & Associates  
Attention: Doug Moore  
May 5, 2000  
Page 2

1P2/399/239-2

strength and consistency which can be particularly pertinent in establishing the soil sampling/testing program with respect to identification of weak or compressible zones and directly to the design of structure foundations..

In addition to the Cone Penetration Tests, subsurface investigation to adequately define earth materials and foundation conditions is expected to require a total of six (6) sampled, logged test borings penetrating to between elev. -40 and elev. -60±. The location and depth of borings will depend on selected project layout. Some project configurations may result in fewer borings; encountered soil conditions may result in increased or decreased boring depth.

Tentatively, three of the sampled borings will be made to 50-70±ft ground penetration in the intake area using our shallow draft drill barge. Two (2) of the sampled borings will be made in the ~~levee-pipeline/gate/bridge~~ to depths of 80-100±ft. Drill access to the outlet area will require clearing some vegetation (berry bushes and tree limbs) and the use of a crawler-mounted drill rig. The sampled boring at the outlet location is expected to be 60-70±ft deep and may be supplemented with Cone Penetration and/or Flat-Dilatometer testing. All penetration tests and sampled test borings will be grout backfilled at completion of field operations.

We assume that any rights-of-entry and Reclamation District approval required to access drill sites will be provided by others. This office will obtain Fish & Game permit for barge operations in the Sacramento River and Yolo County encroachment permit for work in County Road 117 right-of-way. Our work includes an allowance for about ½-day of flagging for traffic control; at least one lane of traffic will be kept open during field study.

Prior to exploration U.S.A. will be notified for location of underground utilities. No hazardous substances are anticipated at this site; if such are identified, work will be stopped at that location until a plan for this changed scope of work can be formulated and agreed to.

We expect to recover soil samples from the sampled borings at roughly 5-ft intervals using split-spoon samplers (mostly Standard Penetration). The encountered materials will be field-classified and borings logged (including groundwater conditions) by an engineer/geologist.

Laboratory testing to supplement field evaluation of earth material parameters is expected to include index tests on suitable samples—engineering classification (gradation and Atterberg limits), Expansion Index, moisture-density and unconfined compressive strength determinations—and direct shear, consolidation and permeability testing on selected samples. One Maximum Dry Density determination will be performed on a sample of existing levee materials to help evaluate volume ratio of cut



West Yost & Associates  
Attention: Doug Moore  
May 5, 2000  
Page 3



1P2/399/239-2

and fill. Encountered soils will be screened for corrosivity using pH/minimum Resistivity/sulfate/chloride content tests on four selected samples.

The report of foundation investigation will present the results of study including results of all field and laboratory testing and summarizing encountered soils and conditions. The report will make specific recommendations for type, elevation and allowable loading of foundation elements and discuss groundwater and other subsurface conditions encountered as they may affect foundation design, construction—including parameters for shoring and de-watering design—and service. The report will address lateral soil pressures for use in structure design.

Site seismicity characteristics, based upon foundation data obtained from this study, will be presented. We assume that site seismic response for design will be based on current UBC criteria. The report will address ground and bank stability at the site with respect to static and earthquake conditions and seismic considerations in foundation design.

The report will be submitted as a draft for review by the owner and designers. A “final” report will be issued based on review comments. During design, we expect to be consulted regarding questions of earth materials/conditions which may arise. Our services include review and comment on plans and specifications insofar as they rely on our study and recommendations.

### **Schedule**

Typically we can mobilize field equipment within a week to 10 days of notice to proceed and clearance of rights-of-entry and permits. A period of 5-6 weeks should be allowed for obtaining a Fish & Game permit for our work in the Sacramento River. Field exploration is expected to require a total of about 7-8 days on-site. The written reports will be completed within four-six weeks thereafter.

Based on the foregoing, total elapsed time from notice to proceed to draft report is expected to be about 16-weeks, with the Sacramento River barge permit/exploration the most controlling activity. Preliminary conclusions and evaluation of foundation recommendations can be discussed at completion of land-side field exploration and after barge-based borings are made. We can complete report revision and issue the “final” report within 2-weeks after receiving review comments.

### **Fee**

Costs for our services are based on the time and effort required in accordance with our current fee schedule (1-1-2000 attached). For the scope of work outlined above our costs are estimated to be in the range of \$30,000 to \$33,000, which can be outlined as follows:

West Yost & Associates  
Attention: Doug Moore  
May 5, 2000  
Page 4

1P2/399/239-2

Permitting (includes \$500 for Fish & Game) .....	\$1000
Cone Penetration Testing .....	\$1300-1600
Drilling and Sampling test borings .....	\$12,000-13,000
Field Engineering .....	\$4300-4600
Flagging/Clearing Crew .....	\$1000
Laboratory Testing and Drafting .....	\$4400-4800
Office Engineering .....	\$6000-7000
(supervision, evaluation/analysis, consultation and report preparation)	

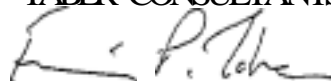
We are prepared to proceed on the basis that our fee will not exceed \$33,000, without prior authorization for mutually agreed change in scope of services.

\* \* \* \* \*

Please call if you have any questions about the foregoing or if we have misinterpreted the desired scope of services. We appreciate your consideration in this work.

Very truly yours,

TABER CONSULTANTS



Franklin P. Taber

Attachments: "Schedule of Fees"

## PERSONNEL

Technical or Office Assistant .....	\$35.00-45.00/hr
Staff Technician .....	45.00-55.00/hr
Senior Technician .....	55.00-65.00/hr
Supervisory Technician .....	65.00-75.00/hr
Draftsman or CAD Draftsman (equipment included) .....	60.00-85.00/hr
Staff Engineer or Geologist .....	65.00-75.00/hr
Certified Engineering Geologist or Registered Geologist .....	75.00-85.00/hr
Registered Civil Engineer or Geotechnical Engineer .....	75.00-85.00/hr
Senior Engineer, Geologist or Engineering Geologist .....	90.00-100.00/hr
Supervisory Engineer or Engineering Geologist .....	105.00-130.00/hr
Principal - Special Consultation (4-hour minimum) .....	150.00/hr

Expert Testimony and Courtroom. Deposition or Hearing Attendance: 150% of Regular Rates (4-hour minimum)

## EQUIPMENT

Drill Rig. Crew & Field Test Equipment .....	135.00-165.00/hr
(Rotary or Auger.. includes typical geotechnical soil sampling and in-boring test equipment)	
Diamond Drilling-Supplemental Diamond Bit Use Charge .....	12.00/ft
Air Drilling.. Supplemental Compressor / Downhole Hammer .....	240.00/dy
Electronic Push Cone Testing (CPT) .....	5.50/ft
Vehicle Use (pickup or automobile) .....	0.40/mi or 5.00/hr
Nuclear Compaction Test Equipment .....	6.00/hr
Steam Cleaner Equipment .....	75.00/dy
Inclinometer Survey Equipment .....	240.00/dy
Seismic Timer Survey Equipment .....	240.00/dy
Computer Use (engineering/ data analysis) .....	30.00/hr

### Auxiliary Field Equipment and Special Field Testing Equipment ..

all-terrain tracked rig. drill barge, tool boat, hand-portable drill. pavement coring, packers, flow meters, shelly and piston samplers. in-situ vane shear. resistivity survey, dilatometer, calibrated jacks. sampling compressor, development pump. HydroPunch II, PID, etc ...

Are Available In-House As Study Needs Dictate ..... Rates Upon Request

Laboratory Testing ..Equipment, Operator and Administration .....	70.00/hr
(Includes special testing, e.g. triaxial compression, permeability, etc.)	

### UNIT PRICES FOR SELECTED TESTS -- Rates For Other Soils Tests Available Upon Request

Remolded Direct Shear Test (includes three saturated points) .....	175.00/ea
Unconfined Compression Test (tube samples) .....	35.00/ea
Unit Dry Weight-Moisture Content (tube or ring samples) .....	25.00/ea
Maximum Dry Density (ASTM D1557 & CTM 216) .....	140.00/ea
Grain Size Analysis-Wet Sieve (coarse or fine series) .....	80.00/ea
Hydrometer Grain Size Analysis (ASTM D422) .....	140.00/ea
Sand Equivalent (CTM 217) .....	70.00/ea
Plasticity Index (ASTM D 4318) .....	70.00/ea
Resistance Value (untreated soil-CTM 301) .....	185.00/ea
Expansion Index (UBC 18-2) .....	70.00/ea

## MISCELLANEOUS

Per Diem Allowance ..Field Living Expense: \$85.00 per man-day

Requested Technical Overtime: 125% of Regular Rates

Outside Services / Rentals / Permits / Job Materials: Cost + 15%

Other Rates. Unit Prices and Service Minimums: Available Upon Request

Subcontract  
(Task Order No. 2)

Design Services for **Fish Screens/Pump Station for RD 2035's**  
Sacramento River Pump Station Improvements —  
Environmental Review

In accordance with the Task Order Agreement between West Yost & Associates, Inc. (Consultant), and Environmental Science Associates (Subconsultant), dated October 5, 1999, Subconsultant is authorized to complete the work scope defined in this Task Order No. 2 (Subcontract) according to the schedule and budget defined herein.

PROJECT UNDERSTANDING

The proposed project is to conduct a feasibility study of constructing a fish screen for diversion RD 2035 on the Sacramento River near Davis, California. The purpose of the fish screen is to minimize entrainment of fishes of concern by the diversion intake. It is understood that fishes of concern would be primarily those listed by the Federal and State Endangered Species Acts. Fishes so listed that would occur in the vicinity of the RD 2035 diversion include winter run Chinook salmon, steelhead, splittail, and delta smelt.

Since both anadromous and resident endangered species are present, both the National Marine Fisheries Service (NMFS) and the Fish and Wildlife Service (FWS) would have jurisdiction over the project. It is also presumed that the project will require compliance with the Clean Water Act, Section 404 as administered by the Corps of Engineers (Corps). As such, Federal permitting of the project would require compliance with the National Environmental Policy Act (NEPA). Presumably, the Corps would assume responsibility as lead agency for NEPA compliance and adopt the environmental documentation resulting from this Subcontract to provide this compliance.

The project would likely require authorization from the State Water Resources Control Board in accordance with Section 401 of the Clean Water Act; and, coordination with the California Department of Fish and Game (DFG) due to the presence of a state-listed endangered fish species (*i.e.*, steelhead). The state involvement would require compliance with the California Environmental Quality Act (CEQA). As such, an environmental document would probably be produced to comply with both NEPA and CEQA.

Because the project would result in a net beneficial impact to the resource of concern (*i.e.*, endangered fishes), it is expected that a Finding of No Significant Impact (FONSI) can be justified thus allowing the NEPA process to be fulfilled by an Environmental Assessment (EA), rather than requiring a considerably more complex Environmental Impact Statement (EIS). The same presumption would apply to the CEQA process and preclude the need for an Environmental Impact Report (EIR). The scope of work for this Subcontract is based on the presumption that a FONSI will be justified and that an EA, rather than an EIS/EIR would be required.

## WORK SCOPE

The work scope is defined by task below.

### **Task 1—Scoping Process**

Subconsultant's project manager will organize a scoping meeting among appropriate regulatory representatives to determine the concerns for the project and develop appropriate study guidelines and/or analyses needed to complete the environmental documentation. This scoping would likely involve representatives from the *Corps*, NMFS, FWS, DFG, and possibly representatives from other interested federal agencies, non-government agencies, and project sponsors.

It is assumed that endangered fish species will be the primary focus of scoping attention; accordingly, Subconsultant will provide its project manager (a senior fisheries biologist) and its director of biological services, both of whom will provide endangered species act coordination assistance and attend the scoping meeting. Following this meeting, the project manager will prepare a memorandum report for all team members to summarize scoping decisions and provide final work assignments to Subconsultant team members.

### **Task 2—Environmental Review and Analysis**

An administrative draft environmental assessment (ADEA) will be prepared for internal review by the project engineer and sponsor. The ADEA will contain all sections required by NEPA. Except for special attention to endangered fish issues, a need is not seen for more than review of appropriate information and documents related to the fish screen project to demonstrate proper understanding of subject matter as needed to describe the potential effects of the project in other environmental areas. This would be provided by experts in the various environmental disciplines expected for environmental documentation. The project manager and the endangered species biologists will visit the project site and meet with project engineers to gather sufficient site descriptive information for the ADEA.

#### *Task 2a. Collect and Review Documents*

Coordination of necessary information for the EA team will be managed and/or assisted by the project manager. He will coordinate scoping needs and maintain close contact with the project engineers and/or sponsors. Each of the disciplinary experts assigned to the project will review descriptions of the project elements, and any other pertinent information, as necessary to provide a brief discussion of the relationship of the project to the environmental setting.

#### *Task 2b. Prepare Project Description*

The project manager will obtain a full understanding of the project through meetings with project engineers and sponsors, gather appropriate information and prepare a Project Description for the EA. He will also prepare a working project description for information as necessary for other team members' analyses.

#### *Task 2c. Prepare Description of Alternatives*

The project manager will also prepare official descriptions of alternatives to the preferred project for the EA. This description will be based on early and maintained coordination with the project engineer and sponsors.

#### *Task 2d. Describe the Affected Environment*

The project manager will provide a general overview description of the environmental setting based on supporting documents and information provided from the project engineer and/or sponsors; any relevant information available from other sources; and, from at least one site visit, probably conducted with the project engineers and/or project sponsors and Subconsultant's wildlife biologist. Each member of the EA team will, based on this information, provide a brief description of the aspect of the environment relevant to each member's discipline.

#### *Task 2e. Environmental Consequences*

The EA team will analyze the project perspective to their disciplines and provide a discussion of potential environmental effects from the fish screen project. Each discussion shall include a description of the intensity, duration, and potential for any identified impacts.

#### *Task 2f. Agency Consultation*

Because of the relationship of the project to several endangered species, it is expected that at least one meeting in addition to the scoping meeting will be needed to discuss the project in detail as related to specific issues. Subconsultant shall provide in its three-person biology team for one such meeting, and shall allow for one additional meeting with the project manager and agency or project engineer representatives if necessary.

### **Task 3—Prepare NEPA Documents**

#### *Task 3a. ADEA Editing, Graphics, Printing*

Subconsultant shall prepare and provide ten (10) copies of an Administrative Draft Environmental Assessment for internal review.

#### *Task 3b. Prepare Draft Environmental Assessment*

Following internal review of the ADEA, the project manager will meet with project engineers and/or sponsors to discuss any issues that require resolution. The project manager will identify areas where changes are required and direct the various team members to make changes as necessary. Twenty (20) copies of the Draft EA will then be provided for distribution and adoption by the lead agency.

#### *Task 3c. Prepare Environmental Finding/Recommendations*

The project manager will provide a summary of pertinent issues and impact analyses. As Subconsultant will have worked closely with the project designers to help them design the

project to eliminate potential environmental problems, Subconsultant consequently anticipates a FONSI can be made.

#### **Task 4—Prepare CEQA Documents**

##### *Task 4a. Administrative Draft Initial Study*

Subconsultant shall prepare and provide ten (10) copies of an Administrative Draft Initial Study (ADIS) for internal review.

##### *Task 4b. Prepare Draft Initial Study*

Following internal review of the ADIS, the project manager will meet with project engineers and/or sponsors to discuss any issues that require resolution. The project manager will identify areas where changes are required and direct the various team members to make changes as necessary. Twenty (20) copies of the Draft IS will then be provided for distribution and adoption by the lead agency.

##### *Task 4c. Prepare Environmental Finding/Recommendations*

The project manager will provide a summary of pertinent issues and impact analyses. As Subconsultant will have worked closely with the project designers to help them design the project to eliminate potential environmental problems, Subconsultant consequently anticipates no significant impacts will be identified.

#### **Task 5. Meetings**

In addition to formal scoping meetings with relevant agencies, Subconsultant proposes an initial project meeting among project engineer and sponsors and Subconsultant's team management. Subconsultant also foresees, because of the sensitivity of the project to endangered species issues, that at least one, and perhaps additional meetings among federal and state agencies, the project engineers and sponsors, and Subconsultant biologists will be needed.

#### **Task 6. Administrative Record**

Subconsultant shall compile an administrative record documenting key decisions made throughout the NEPA process. This will include meeting notes, memoranda, *etc.* documenting such decisions. The administrative record will be kept at Subconsultant's offices for up to two (2) years.

#### **STAFFING**

Subconsultant has provided an EA team with the variety and level of expertise appropriate for a project of this nature. Subconsultant's team is led by Leslie Moulton, as project director, Phillip Rieger as project manager, and Tom Roberts for specialized endangered species act coordination. Lelsie has vast experience with water resource project NEPA and CEQA evaluations in the project vicinity. Phillip, Subconsultant's senior fisheries biologist, has over 20 years performing fisheries and environmental evaluations of water resources projects. And Tom has specialized in

rare and endangered species management and protection for over 20 years and is the director of biological services at Subconsultant.

Subconsultant shall provide additional expertise in the various environmental disciplines relevant to the proposed fish screen project. These include specialists in hydrology, geology, air quality and noise, socioeconomics and cultural resources, and recreation.

#### TERM OF SUBCONTRACT

The term of this Subcontract shall be defined later, and will be based on the term of the contract for this project between RD 2035 and CALFED.

#### SUBCONTRACTING

Subconsultant is responsible for all subcontracted work. Subcontract terms and conditions should include all applicable Subcontract terms and conditions as presented herein.

#### CONFLICT OF INTEREST

Subconsultant shall comply with all applicable state laws and rules pertaining to conflicts of interest, including but not limited to, Government Code Section 1090 and Public Contract Code 10410 and 10411.

#### STANDARD OF PROFESSIONALISM

Subconsultant shall conduct all work consistent with professional standards for the industry and type of work being performed under the Subcontract.

#### RIGHTS IN DATA

All data and information obtained and/or received under this Subcontract shall be in the public domain. Subconsultant shall have the right to disclose, disseminate, and use, in whole or part, any final form data and information received, collected, and developed under this agreement, subject to inclusion of appropriate written acknowledgement of credit to the State, National Fisheries and Wildlife Foundation (NFWF), CALFED, and all cost sharing partners for their financial support. Use of draft data requires pre-approval by the State or NFWF and CALFED. Subconsultant shall not sell or grant rights to a third party who intends to sell such product as a profit-making venture.

#### INDEMNIFICATION

Subconsultant agrees to indemnify, defend, and save harmless Consultant, Client, the State or NFWF, CALFED Agencies, the Resources Agency, or Department of Water Resources, its officers, agents, and employees from any and all claims and losses accruing or resulting to any or all contractors, subcontractors, material persons, laborers, and any other person, firm, or corporation furnishing or supplying work services, materials, or supplies in connection with the negligent performance of this Subcontract, and from any and all claims and losses accruing or



resulting to any person, firm, or corporation who may be injured or damaged by Subconsultant in the negligent performance of this Subcontract.

#### INDEPENDENT STATUS

Subconsultant, and the officers, agents, and employees of Subconsultant, in the performance of this Subcontract, shall act in an independent capacity and not as officers, employees, or agents of Consultant, Client, the State of California. NFWF, CALFED Agencies, the Resources Agency, or Department of Water Resources.

#### ASSIGNMENT

Without the written consent of the State, this Subcontract is not assignable by Subconsultant in whole or in part.

#### AMENDMENTS

By mutual agreement, the parties may amend this Subcontract. Subconsultant shall submit a written request for amendment to Consultant, who will in turn submit the request to Client, NFWF, and CALFED. The amendment is not effective until Consultant, Client, NFWF, and CALFED provide written approval of the amendment, its terms, and conditions. Work completed prior to approval of an amendment is done at Subconsultant's risk, without expectation of reimbursement.

#### BUDGET

The costs for Subconsultant's services as defined herein shall not exceed \$78,000. The costs for Subconsultant's services are presented in Table 1.

**Table 1. Estimated Budget**

Work Task	Budget, dollars
1. Scoping Process	3,000
2. Environmental Review and Analysis	40,000
3. Prepare NEPA Documents	13,000
4. Prepare CEQA Documents	10,000
5. Meetings	10,000
6. Administrative Record	2,000
Total	78,000

#### COMPENSATION

Compensation shall be in accordance with the provisions of the Task Order Agreement between Consultant and Subconsultant.

The compensation limit for services performed under this task order shall not exceed \$78,000. If additional funds are required to complete the services defined herein beyond this limit, Subconsultant shall notify Consultant in writing prior to reaching the authorized limit, and will not proceed with work in excess of the limit without the prior written approval of Consultant.

### SCHEDULE

Subconsultant shall begin environmental review and documentation on the fish screen project at any time. Following a project kick-off meeting, Subconsultant proposes to arrange a scoping meeting with appropriate agencies at the earliest date. Subconsultant shall allow for at least thirty (30) days to arrange this meeting, but it could take up to sixty (60) days to accommodate all interested parties. Following the scoping meeting, Subconsultant shall allow another sixty (60) days to prepare the ADEA and conduct further agency consultation. An internal review period of ~~thirty~~ (30) days is recommended, followed by another thirty (30) days to finish the Draft EA and FONSI for agency distribution. The total time for completion of the Draft EA would be five to six months from notice to proceed.

WEST YOST & ASSOCIATES, WC.

ENVIRONMENTAL SCIENCE ASSOCIATES

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

James A. Yost  
\_\_\_\_\_  
Printed Name

Leslie Moulton  
\_\_\_\_\_  
Printed Name

Principal  
\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

## **APPENDIX E**

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### **Land Use and Environmental Compliance Checklists**

## Land Use Checklist

All applicants must fill out this Land Use Checklist for their proposal. Applications must contain answers to the following questions to be responsive and to be considered for funding Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.

1. Do the actions in the proposal involve physical changes to the land (i.e. grading, planting vegetation; or breaching levees) or restrictions in land use (i.e. conservation easement or placement of land in a wildlife refuge)?

X  
YES

          
NO

2. If NO to # 1, explain what type of actions are involved in the proposal (i.e., research only, planning only).

Not applicable

3. If YES to # 1, what is the proposed land use change or ~~restriction~~ under the proposal?

The current proposal is for design and environmental review of fish screens for RD 2035's Sacramento River pump station intake. The design/environmental review will not physically change the land, but the ultimate construction project will.

4. If YES to # 1, is the land currently under a Williamson Act contract?

          
YES

"  
Δ  
NO

5. If YES to X 1, answer the following:

Current land use

Current mining

Current general plan designation

pump station

agricultural

agricultural

6. If YES to #1, is the land classified as Prime Farmland, Farmland of Statewide Importance or Unique Farmland on the Department of Conservation Important Farmland Maps?

          
YES

X  
NO

          
DON'T KNOW

7. If YES to # 1, how many acres of land will be subject to physical change or land use restrictions under the proposal?

2

8. If YES to # 1, is the property currently being commercially farmed or grazed?

          
YES

X  
NO

9. If YES to #8, what are

the number of employees/acre         

the total number of employees



## Environmental Compliance Checklist

All applicants must fill out *this* Environmental Compliance Checklist. Applications must contain answers to the following questions to be responsive and to be considered for funding Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.

1. Do any of the actions included in the proposal require compliance with either the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), or both?

X  
YES

                      
NO

2. If you answered yes to # 1, identify the lead governmental agency for CEQA/NEPA compliance

US Bureau of Reclamation  
Lead Agency - NEPA

RD 2035  
Lead Agency - CEQA

3. If you answered no to # 1, explain why CEQA/NEPA compliance is not required for the actions in the proposal.

Not applicable

4. If CEQA/NEPA compliance is required, describe how the project will comply with either or both of these laws. Describe where the project is in the compliance process and the expected date of completion.

The project will comply with CEQA/NEPA through preparation of an Environmental Assessment and/or an Initial Study. The environmental review of this project has not yet started, but funding for the environmental review is requested in this proposal.

5. Will the applicant require access across public or private property that the applicant does not own to accomplish the activities in the proposal?

X  
YES

                      
NO

If yes, the applicant must attach written permission for access from the relevant property owner(s). Failure to include written permission for access may result in disqualification of the proposal during the review process. Research and monitoring field projects for which specific field locations have not been identified will be required to provide access needs and permission for access with 30 days of notification of approval.

Access has been granted by the property owner, see Appendix B.

6. Please indicate what permits or other approvals may be required for the activities contained in your proposal. Check all boxes that apply.

**LOCAL**

Conditional use permit ☐  
 Variance ☐  
 Subdivision Map Act approval ☐  
 Grading permit ☒  
 General plan amendment ☐  
 Specific plan approval ☐  
 Rezone ☐  
 Williamson Act Contract cancellation ☐

Other Several permits will be required, please see the proposal.  
 (please specify)

None required, ☐

**STATE**

CESA Compliance ☐ (CDFG)  
 Streambed alteration permit ☒ (CDFG)  
 CWA § 401 certification ☐ (RWQCB)  
 Coastal development permit ☐ (Coastal Commission/BCDC)  
 Reclamation Board approval ☐  
 Notification ☐ (DPC, BCDC)

Other Several permits will be required, please see the proposal.  
 (please specify)

None required ☐

**FEDERAL**

ESA Consultation ☐ (USFWS)  
 Rivers & Harbors Act permit ☐ (ACOE)  
 CWA § 404 permit ☒ (ACOE)

Other Several permits will be required, please see the proposal.  
 (please specify)

None required ☐

DPC = Delta Protection Commission  
 CWA = Clean Water Act  
 CESA = California Endangered Species Act  
 USFWS = U.S. Fish and Wildlife Service  
 ACOE = U.S. Army Corps of Engineers

ESA = Endangered Species Act  
 CDFG = California Department of Fish and Game  
 RWQCB = Regional Water Quality Control Board  
 BCDC = Bay Conservation and Development Comm.

# APPENDIX F

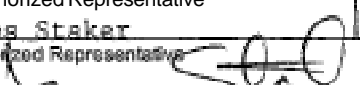
## Standard Terms and Conditions

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# APPLICATION FOR FEDERAL ASSISTANCE

OMB Approval No. 0348-0043

<b>1. TYPE OF SUBMISSION:</b> Application <input type="checkbox"/> Construction <input type="checkbox"/> Non-Construction Preapplication <input type="checkbox"/> Construction <input type="checkbox"/> Non-Construction		<b>2. DATE SUBMITTED</b> 5/14/00		Applicant Identifier	
		<b>3. DATE RECEIVED BY STATE</b>		State Application Identifier	
		<b>4. DATE RECEIVED BY FEDERAL AGENCY</b>		Federal Identifier	
<b>5. APPLICANT INFORMATION</b>					
Legal Name: Reclamation District 2035			Organizational Unit:		
Address (give city, county, State, and zip code): 45332 County Road 25 Woodland CA 95776 ) Yolo County			Name and telephone number of person to be contacted on matters involving this application (give area code) James Staker, General Mgr. (530) 662-6200		
<b>6. EMPLOYER IDENTIFICATION NUMBER (EIN):</b> 68-0249569			<b>7. TYPE OF APPLICANT: (enter appropriate letter in box)</b> <div style="display: flex; justify-content: space-between;"> <div>           A. State            B. county            C. Municipal            D. Township            E. Interstate            F. Intermunicipal            G. Special District         </div> <div>           H. Independent School Dist.            I. State Controlled Institution of Higher Learning            J. Private University            K. Indian Tribe            L. Individual            M. Profit Organization            N. Other (Specify) _____         </div> </div> <div style="text-align: right; margin-top: -20px;"> <input checked="" type="checkbox"/> G         </div>		
<b>8. TYPE OF APPLICATION:</b> <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision If Revision, enter appropriate letter(s) in box(es) <input type="checkbox"/> <input type="checkbox"/> A. Increase Award    B. Decrease Award    C. Increase Duration D. Decrease Duration    Other (specify): _____			<b>9. NAME OF FEDERAL AGENCY:</b> USBR		
<b>10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER</b> <div style="text-align: center;"> <input type="text"/> <input type="text"/> - <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> </div> TITLE: _____			<b>11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:</b> RD 2035 Fish Screen Design and Environmental Review		
<b>12. AREAS AFFECTED BY PROJECT (Cities, Counties, States, etc.):</b> Yolo County, California					
<b>13. PROPOSED PROJECT</b>		<b>14. CONGRESSIONAL DISTRICTS OF</b>			
Start Date 7/00	Ending Date 12/01	a. Applicant Congressman Doug Ose		b. Project Congressman Doug Ose	
<b>15. ESTIMATED FUNDING:</b>		<b>16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?</b>			
a. Federal \$ 1,1820,000 <sup>00</sup>		a. YES, THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON DATE _____			
b. Applicant In kind services \$ 30,000 <sup>00</sup>		b. No, <input checked="" type="checkbox"/> PROGRAM IS NOT COVERED BY E. O. 12372 <input type="checkbox"/> OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW			
c. State \$ _____					
d. Local \$ _____					
e. Other \$ _____					
f. Program Income \$ _____		<b>17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?</b> Yes <input type="checkbox"/> If "Yes," attach an explanation. <input checked="" type="checkbox"/> No			
g. TOTAL \$ 1,850,000 <sup>00</sup>					
<b>18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.</b>					
a. Type Name of Authorized Representative James Staker		b. Title General Manager		c. Telephone Number (530) 662-6200	
d. Signature of Authorized Representative 				e. Date Signed 5/15/00	

## NONDISCRIMINATION COMPLIANCE STATEMENT

STD. 19 (REV 3-85)

COMPANY NAME

Reclamation District 2035

The company named above (hereinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), medical condition (cancer), age (over 40), marital status, denial of family care leave and denial of pregnancy disability leave.

## CERTIFICATION

*I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.*

OFFICIAL'S NAME

James Staker

DATE EXECUTED

5/15/00

EXECUTED IN THE COUNTY OF

Yolo

PROSPECTIVE CONTRACTOR'S SIGNATURE

PROSPECTIVE CONTRACTOR'S TITLE

General Manager, RD 2035

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

James Staker